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## ABSTRACT

The Carnegie Commission Reports Information System (CCRIS) attempts to make the findings of the 22 Commission reports (published by McGraw Hill Book Company) more readily available to the academic community. CCRIS consists of an explanatory text of 16 pages introducing the reader to a set of 1500 edge-notched McBee cards. Each card contains a substantive note or extract from the text of the various Commission reports. Each note is identified as to its exact location in the reports. The notes are numbered consecutively and are arranged according to a special taxonomy or classification, which is contained in the opening text and which amounts to an index to the cards. The notes provide documented support data for planning and decisionmaking in higher education. The taxonomy used to categorize the management concepts contained in the Carnegie Commission reports is as follows: purpose, governance, resources (acquisition and management), instruction, organized research, public service, academic support, student service, institutional support, and independent operation. The taxonomy used to categorize the management concepts is based on the Program Classification Structure (PCS) developed by the National Center for Higher Education Management Systems at WICHE. PCS is a suitable basis for a taxonomy of management concepts because it: emphasizes the achievement of institutional objectives in analyzing resource data, provides an already recognized and accepted classification of institutional elements, and offers a uniform base for program budgeting techniques. To use CCRIS effectively one must: determine major category classification from the taxonomy, select minor categories, note card numbers of desired category, and locate specific cards.

(Author/PG)

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## CCRIS: CARNEGIE COMMISSION REPORTS INFORMATION SYSTEM

Mary Jo Lavin

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## PREFACE

CCRIS is an information system which makes the Carnegie Commission findings more readily available to the academic community. CCRIS uses the twenty-two Commission Reports as a research base for approximately 1,500 note cards. Classified according to a special taxonomy and numbered consecutively, the notes provide documented support data for planning and decision making in higher education.

The project was conceived by Dr. Gary M. Andrew, Vice Chancellor for Administration and Planning, University of Colorado, Boulder; it was undertaken and completed by Mary Jo Lavin, a doctoral student in Higher Education at the University of Colorado. Research objectivity was considered essential to the project's value as a planning instrument. Personal bias and editorializing, therefore, were avoided scrupulously. Holly Barnet, Ron Green, Karen Mallin, and Arline Weidner provided supplemental typing and research assistance.

CCRIS is intended for use in conjunction with the complete series of Carnegie Commission Reports published by McGraw Hill Book Company, New York, New York, which has granted permission for general reprint.

Mary Jo Lavin

Boulder, Colorado

September, 1974

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## I. INTRODUCTION

The Carnegie Commission on Higher Education was established by the Carnegie Foundation for the Advancement of Teaching in 1967. Its purpose was to study higher education and to make recommendations for the 1970's and predictions for the 2000's. The Commission published its final report, Priorities for Action, in 1973.

During its six-year existence, members of the Commission (Table 1) met on thirty-three (33) occasions for a total of seventy-seven (77) days. The Commission also consulted with several hundred leaders of higher education, and the observations of these educators were incorporated into the Commission's findings. These findings are contained in twenty-one special reports (plus one revision) and a final summary, which were published between 1968 and 1973. In addition to publishing its own findings, the Commission has sponsored a series of special studies and research projects. The resultant reports, both research and technical, although authored by research authorities and investigators, are not endorsed necessarily by the Commission.

The Carnegie Commission Reports Information System (CCRIS) provides ready access to the recommendations which are contained in the reports authored by the Commission itself.

## TABLE 1

### MEMBERS OF THE CARNEGIE COMMISSION

Eric Ashby - The Master, Clare College, Cambridge, England

Ralph M. Besse - Partner, Squire, Sanders & Dempsey, Counsellors at Law

Joseph P. Cosand - Professor of Education and Director, Center for Higher Education,  
University of Michigan

William Friday - President, University of North Carolina

The Honorable Patricia Roberts Harris - Partner, Fried, Frank, Harris, Shriver &  
Kampelman, Attorneys

David D. Henry - President Emeritus, Distinguished Professor of Higher Education,  
University of Illinois

Theodore M. Hesburgh, C.S.C. - President, University of Notre Dame

Stanley J. Heywood - President, Eastern Montana College

Carl Kaysen - Director, Institute for Advanced Study at Princeton

Kenneth Keniston - Chairman and Director, Carnegie Council on Children

Katharine E. McBride - President Emeritus, Bryn Mawr College

James A. Perkins - Chairman of the Board, International Council for Educational  
Development

Clifton W. Phalen - Chairman of the Executive Committee, Marine Midland Banks, Inc.

Nathan M. Pusey - President, The Andrew W. Mellon Foundation

David Riesman - Henry Ford II Professor of Social Sciences, Harvard

The Honorable William W. Scranton

Norton Simon

Kenneth Tollett - Distinguished Professor of Higher Education, Howard University

Clark Kerr - Chairman

## II. CCRIS

### A. Method of Research

The twenty-two reports (plus one revision) authored by the Carnegie Commission itself were selected as the research basis for CCRIS. The reports were arranged in chronological sequence according to publication date and assigned an identifying number (Table 2).

TABLE 2

#### COMMISSION REPORTS RESEARCHED

1. Quality and Equality: New Levels of Federal Responsibility for Higher Education - (1968)
- 1A. Revisions - (1970)
2. A Chance to Learn: An Action Agenda for Equal Opportunity in Higher Education - (1970)
3. The Open Door Colleges: Policies for Community Colleges - (1970)
5. The Capitol and the Campus: State Responsibilities for Postsecondary Education-(1971)
6. Less Time, More Options: Education Beyond the High School - (1971)
8. Dissent and Disruption: Proposals for Consideration by the Campus - (1971)
9. New Students and New Places: Policies for the Future Growth and Development of American Higher Education - (1971)
10. Institutional Aid: Federal Support to Colleges and Universities - (1972)
11. The Fourth Revolution: Instructional Technology in Higher Education - (1972)
12. The More Effective Use of Resources: An Imperative for Higher Education - (1972)
13. Reform on Campus: Changing Students, Changing Academic Programs - (1972)
14. The Campus and the City: Maximizing Assets and Reducing Liabilities - (1972)
15. College Graduates and Jobs: Adjusting to a New Labor Market Situation - (1973)
16. Governance of Higher Education: Six Priority Problems - (1973)
17. The Purposes and the Performance of Higher Education in the United States: Approaching the Year 2000 - (1973)
18. Higher Education: Who Pays? Who Benefits? Who Should Pay? - (1973)
19. Continuity and Discontinuity: Higher Education and the Schools - (1973)
20. Opportunities for Women in Higher Education: Their Current Participation, Prospects for the Future and Recommendations for Action - (1973)
21. Toward a Learning Society: Alternative Channels to Life, Work, and Service - (1973)
22. Priorities for Action: Final Report of the Carnegie Commission on Higher Education - (1973)
- R37. The Future of Higher Education: Some Speculations and Suggestions by Alexander M. Mood - (1973)

Report #4 (Higher Education and the Nation's Health: Policies for Medical and Dental Education) and Report #7 (From Isolation to Mainstream: Problems of the Colleges Founded for Negroes) were considered too specialized to provide information useful to a state university. Report #3 (The Open Door Colleges: Policies for Community Colleges) was retained for possible information on transfer students. Report #1 (Quality and Equality), published in 1968, was researched in conjunction with its revision, published in 1970 and numbered #1A. Only one Sponsored Research Report, The Future of Higher Education by Alexander Mood (#R 37), was included because of its particular relevance to academic planning. All of the Carnegie Commission reports which were researched were published by McGraw Hill Book Company, New York, New York.

Each research note or Commission recommendation was typed on an individual Keysort Card (Figure 1). As the sample demonstrates, the numbers of the source report and page are indicated in the lower left corner; the upper right corner contains the number of the taxonomic category. The card number is typed in the upper center. The completed notes total approximately 1,500 cards of four principal types:

- 1) quoted recommendations
- 2) brief abstracts
- 3) cross references
- 4) duplicated tables and charts.

#### B. Categories

The Taxonomy (Table 3) used to categorize the management concepts contained in the Carnegie Commission Reports is based on the Program Classification

FIGURE 1

Summary Title	Card Number	Category Number
	- 90 -	1.1/1.2
<p><u>NEED FOR NEW COLLEGES IN URBAN AREAS EXCEEDING 500,000 POP.</u></p> <p>The Carnegie Commission believes that "there is a need, especially in large metropolitan areas, for an adequate supply of relatively open-access comprehensive colleges and community colleges, especially when existing universities in the area are national, rather than regional, universities. . ."</p> <p>Warning: The Commission alerts educators to the possibility of radical changes in anticipated needs for urban areas precipitated by increasing popularity of external degree programs and open universities.</p> <p>Cf. 4.4 for specific details of these programs - C. #1168 - #1174.</p>		
BEST COPY AVAILABLE		
#9 (98-104)		
<p><u>CARNEGIE COMMISSION REPORT Number</u></p> <p><u>Cross reference card numbers</u></p>		



Structure (PCS) developed by the National Center for Higher Education Management Systems at WICHE. PCS is a suitable basis for a taxonomy of management concepts from the Carnegie Commission Reports because it:

- 1) emphasizes the achievement of institutional objectives in analyzing resource data;
- 2) provides an already recognized and accepted classification of institutional elements;
- 3) offers a uniform base for program budgeting techniques.

Covering the instructional as well as the support services, the PCS sections were re-numbered to become categories 4.0 through 10.0 of CCRIS.

Additional categories were necessary, however, to supplement the quantitative considerations provided by PCS. Categories 1.0 (Purpose), 2.0 (Governance), and 3.0 (Resources) were prefixed to the PCS core. Classifications were needed also for the philosophical concepts addressed by portions of the Carnegie Commission Reports as well as for the format demands of the individual campus master plans. Therefore, subcategories for management policies and innovations were added to most of the major category divisions. Further modifications, needed to accommodate the substitution of Keysort data processing for computer programming, limited the category numbers to a maximum of two decimal places.

The resultant extended PCS anticipates the requirements of future application in a state university system by providing subject headings for the major management considerations of higher education. It also meets the regulations stipulated by the Keysort processing technique. Most importantly, however, the CCRIS taxonomy responds to the demands of the Carnegie Commission Reports by allowing for the general concepts of educational philosophy which substantiate many particular policy recommendations.

**TABLE 3**  
**TAXONOMIC CATEGORIES**

**1.0 PURPOSE**

- 1.1 Community goal of institution
- 1.2 State goal of institution
- 1.3 National goal of institution
- 1.4 Student-oriented goal of institution

**2.0 GOVERNANCE**

- 2.1 Internal governance
  - 2.11 administrative structure
  - 2.12 faculty involvement in governance
  - 2.13 student involvement in governance
- 2.2 Institutional Board
- 2.3 External governance
  - 2.31 local influence on governance
  - 2.32 state influence on governance
  - 2.33 federal influence on governance
  - 2.34 external pressures on institutional governance
- 2.4 Management policies of governance
- 2.5 Innovations in governance

**3.0 RESOURCES (Acquisition and Management)**

- 3.1 Financial resources
  - 3.11 local fund sources
  - 3.12 state fund sources
  - 3.13 federal fund sources
  - 3.14 private fund sources
  - 3.15 innovations in financial resources
- 3.2 Human resources
  - 3.21 administration
  - 3.22 faculty
  - 3.23 staff
  - 3.24 student (admissions, retention, enrollment)
  - 3.25 innovations in human resources
- 3.3 Property resources
  - 3.31 facilities
  - 3.32 space utilization
  - 3.33 innovations in property resources

#### 4.0 INSTRUCTION

- 4.1 Academic instruction
  - 4.11 undergraduate instruction
  - 4.12 graduate instruction - general
  - 4.13 graduate instruction - professional
- 4.2 Occupational and vocational instruction
- 4.3 Management policies of instruction
  - 4.31 academic evaluation
- 4.4 Innovations in instruction

#### 5.0 ORGANIZED RESEARCH

- 5.1 Institutes and research centers
- 5.2 Individual or project research
- 5.3 Management policies of organized research
- 5.4 Innovations in organized research

#### 6.0 PUBLIC SERVICE

- 6.1 Community education
- 6.2 Community service
- 6.3 Cooperative extension service
- 6.4 Management policies of public service
- 6.5 Innovations in public service

#### 7.0 ACADEMIC SUPPORT

- 7.1 Libraries
- 7.2 Museums and galleries
- 7.3 Audio-visual services
- 7.4 Computing support
- 7.5 Ancillary support
- 7.6 Course and curriculum development
- 7.7 Management policies of academic support
- 7.8 Innovations in academic support

#### 8.0 STUDENT SERVICE

- 8.1 Social and cultural development
- 8.2 Supplementary educational services
- 8.3 Counseling and career guidance
- 8.4 Financial aid
- 8.5 Student support
  - 8.51 housing
  - 8.52 health services
  - 8.53 food services
  - 8.54 retail services and concessions

- 8.6 Special student services
- 8.7 Management policies of student service
- 8.8 Innovations in student service

## 9.0 INSTITUTIONAL SUPPORT

- 9.1 Fiscal operations
- 9.2 General administrative services
- 9.3 Logistical services
- 9.4 Physical plant operations
- 9.5 Faculty and staff services
- 9.6 Institutional research
- 9.7 Management policies of institutional support
- 9.8 Innovations in institutional support

## 10.0 INDEPENDENT OPERATIONS

- 10.1 Institutional operations
- 10.2 Outside agencies
- 10.3 Management policies of independent operations
- 10.4 Innovations in independent operations

### C. Procedure for Use

Using CCRIS effectively necessitates a familiarity with the sample card as well as with the Index which indicates the numbers of the cards included in each taxonomic category.

#### Procedural Steps:

1. determine major category classification from the taxonomy
2. select minor category classification
3. note card numbers of desired category
4. locate specific cards
5. repeat steps 3 and 4 for cross references

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10.4	Innovations in independent operations	----

PURPOSES OF HIGHER EDUCATION - CLARIFICATION NEEDED

1.0

The Carnegie Commission considers "clarification of purposes" as the first priority for action for higher education.

F22(23)



NEED FOR CLARIFICATION ABOUT PURPOSES OF HIGHER EDUCATION

The Carnegie Commission notes that "Higher education, as it faces the public, has appeared to be changing some of its purposes, to some degree at least, in unwise directions." The Commission recommends that higher education "clarify what it thinks it is about. . . (then) place this clarified set of purposes before the nation. . ."

#22(25-26)

1.0

CLARIFICATION OF PURPOSES NEEDED

The Commission lists among its recommendations deserving special attention the suggestion of a "Clarification of purposes, and re-creation of a great new sense of purpose."

#22 (91)

# PURPOSE AND FUNCTION: A DEFINITION

"We (Carnegie Commission) define purposes as being the intentions of higher education, as constituting the general design of higher education, as comprising the end objects it pursues. We define functions as the specific acts performed in the course of fulfilling the purposes. . . . Purposes are intentional, and functions are instrumental."

. . . "It is customary to say that higher education has three 'purposes': teaching, research, and service. These are more instrumental functions or means, as we define them, and less intentional purposes or ultimate ends; . . ."

#17 (Foreward vii-viii)

## THE MAIN PURPOSES OF HIGHER EDUCATION IN THE UNITED STATES TODAY

The Carneige Commission considers the following objectives as the main purposes of higher education in the United States today and for the future:

"The provision of opportunities for the intellectual, aesthetic, ethical, and skill development of individual students, and the provision of campus environments which can constructively assist students in their more general developmental growth

The advancement of human capability in society at large

The enlargement of educational justice for the post-secondary age group

The transmission and advancement of learning and wisdom

The critical evaluation of society-through individual thought and persuasion - for the sake of society's self-renewal."

#17 (1)

# PURPOSES OF HIGHER EDUCATION

The Carnegie Commission establishes five major purposes "toward which we believe that higher education in the United States should now be directed":

1. "The education of the individual student and the provision of a constructive environment for developmental growth"(13)
2. "Advancing human capability in society at large" (23)
3. "Educational justice for the postsecondary age group" (29)
4. "Pure learning—supporting intellectual and artistic creativity" (39)
5. "Evaluation of society for self-renewal—through individual thought and persuasion" (43)

#17 (13, 23, 29, 39, 43)

# ACKNOWLEDGED THEORIES ABOUT PURPOSE OF HIGHER EDUCATION

The Carnegie Commission observes that "three major doctrinal views about central purpose are found within higher education: (1) that it should be concerned with a search for and a socialisation to values, (2) that it should serve the cause of the continuing evolution of knowledge and of skill development within existing society, and (3) that it should help prepare the way for (or assist the perpetuation of) some designated type of society."

The Commission continues by noting that it is the third view which now "constitutes the main challenge to the still dominant approach (#2)."

#17 (3)

TRUE ROLE OF CAMPUS

The Carnegie Commission declares that "The campus is above all a center for learning. . .It is the preeminent place for the giving and receiving of instruction at high levels to all who want it and can benefit from it, and for acquiring knowledge through research and reflection and making it available to any and all who have an interest in it."

#17 (5)

# 1.0

## PURPOSE OF THE UNIVERSITY IN A PLURALISTIC SOCIETY

The Carnegie Commission affirms that no other institution provides so well for the performance of the special tasks of searching for new knowledge and independently criticizing society as the university. The Commission notes, however, that although the university (or college) is a multipurpose institution, "it is not an all purpose institution. . . Many other institutions and arrangements exist in a pluralistic society to serve nonacademic purposes. . ."

**#13 (32-33)**



CRITICAL EVALUATION

1.0

"Critical evaluation should not be allowed to extend to disruption of the campus or of society, to the improper use of campus facilities to mount public campaigns for or against some idea or program or political candidate. . .The role of the campus is to encourage the offering of facts and ideas..."

#17 (51)

HIGHER EDUCATION'S OBLIGATIONS TO SOCIETY

The Carnegie Commission observes that "Higher education has a great responsibility for (1) developing and making available new ideas and new technology (2) finding and training talent and guiding it to greater usefulness, and (3) generally enhancing the information, the understanding, and the cultural appreciation and opportunities of the public at large."

#17 (24)

SOCIETAL PROBLEMS AND THE UNIVERSITY

The Carnegie Commission observes that "the problems of society...extend into the university...The campus can neither retreat from the problems of society nor solve them all alone, but the proper balance between separation and involvement is by no means clear."

#13 (25)

EDUCATIONAL MISSION CONSIDERATION

"Before taking on a new educational function, institutions will determine the relationship of that function to their educational mission and will ascertain whether there are existing alternative educational resources to meet the particular educational need to be served. If such alternative resources exist, the possibility of contractual agreements with other institutions to secure the services, or the possibility of joint enrollment of the learner, will be explored before a new program is developed."

#21 (99-100)

# THE INSTITUTION IN POSTSECONDARY EDUCATION - PROMOTIONAL ASSISTANCE

The individual institution involved in postsecondary education will receive promotional assistance in fulfilling its purpose according to the Carnegie Commission recommendation that "Collection and dissemination of information on all forms of post-secondary education will be given high priority by federal and state education statistical agencies."

#21 (71)

# NEED FOR DETERMINING UNIQUE PURPOSE

The Carnegie Commission recommends that "Diversity among institutions and within them should be a major goal of higher education, and one test of institutions and of their major segments should be how successful they have been in defining their special characters and how successful they are in achieving them."

- Cf. 4.0 CLUSTER COLLEGES - #13 (40) - C. # 886 for suggestion which provides "particularly good opportunities for diversity."
- 4.0 SPECIALIZATION AND DIFFERENTIATION AMONG CAMPUSES - #13 (40) - C. #887 for recommendation relative to state plans and institutional specialization.
- 2.32 STATE ENCOURAGEMENT OF INSTITUTIONAL DIVERSITY - #5 (34) - C. #270.
- 2.3 ACCREDITATION - EFFECTS OF DIVERSITY - #13 (40) - C. # 259.

#13 (40)

## ELIMINATION OF NONCOMPLEMENTARY FUNCTIONS

The Carnegie Commission recommends that "Institutions of higher education should seek to avoid and to eliminate noncomplementary functions."

#17 (74)

1.0

## AVOIDING DUPLICATION OF FUNCTION

The Carnegie Commission recommends that "to help maintain differentiation of function and to reduce excessive tension within state systems, two steps should be taken: (1) There should be experimentation on a large scale with doctor of arts degrees as a teaching alternative to the research Ph.D.; and (2) There should be a redefinition of institutional quality to focus upon the value added by the college experience itself."

#19 (40)



# MISSIONS TO GUIDE ACADEMIC REFORMS

The Carnegie Commission suggests the following missions and boundaries as guides for academic reform:

- Emphasis on the intellect and avoidance of the anti intellectual and the nonintellectual, except as it is incidental to the performance of other functions
- Emphasis on the wealth of alternative views of society and its component parts, and on careful consideration of each and avoidance of compulsory single-minded religious or political indoctrination on campus
- Emphasis on academic competence and avoidance of political tests in determining preferment among faculty members and students
- Emphasis on persuasion through facts and analysis and principles and avoidance of coercion to prevent free expression of opinions or to require acceptance of unwelcome opinions
- Emphasis on the advancement in knowledge and skill under conditions of equality of opportunity and avoidance of a doctrine of equality of results regardless of ability and effort, of an inflation of grades until they no longer differentiate

ECONOMIC JUSTICE - AFFECTED BY HIGHER EDUCATION 1.0

"Higher education-not as a direct purpose but as a consequence of its continued development-affects economic justice more generally. It reduces the scarcity of highly trained manpower and thus, slowly over time and through the imperfect operations of the labor market, diminishes the premiums paid for each skill...The inevitable consequence is a narrowing of differentials in income originating from employment. . .A democracy lives more peacefully with itself when the distribution of income lies within a reasonably moderate range."

#17 (34)

EMPHASIS ON DEVELOPING HUMAN CAPABILITIES

The Carnegie Commission recognizes that the new emphasis in higher education is "on the development of individual human capabilities to enhance the quality of life in all its aspects and to enhance individual and social well-being."

#13 (1)

# CONDITIONS NECESSITATING REFORM IN HIGHER EDUCATION

The Carnegie Commission has recognized certain major forces which are pressing for change (aside from the attitudes of a few who are generally dissatisfied and the many who have specific dissatisfactions):

- The impact of moving from elite to mass higher education—the United States has led in this great historical development of enormous portent
- The greater sophistication of students as they enter college
- The explosion of new knowledge and the increasing obsolescence of old knowledge
- The changing labor market situation for college graduates
- New perspectives on the content of the curriculum
- The new societal problems begging for solutions
- The “cultural revolution” with its less than fully consistent concentrations  
(a) on sensate experiences and (b) on political ideology
- A new scrutiny of academic life

**PROBLEM AREAS NECESSITATING REFORM IN HIGHER EDUCATION**

The Carnegie Commission recognizes certain areas in higher education as being particularly identified with needing remedial action. These areas include:

- The strong tendency toward homogenization of higher education
- The collapse of general education into a potential or even actual disaster area
- The desirability of constant renewal of the curriculum to make it more "relevant," including the addition of more creative opportunities for students and more attention to world cultures
- The need to reaffirm the importance of high-quality teaching
- The need to reduce the numbers of reluctant attenders
- The need to give more attention to the growth needs of students
- The need to take a fresh look at our system of graduate education

These areas constitute the main challenges as we see them.

cf. 1.4 STUDENT-ORIENTED REFORMS - #13 (4) for suggested reforms  
#13 (3-4)

ROLES WHICH CAMPUS SHOULD NOT PLAY

The Carnegie Commission observes that although "Some persons seek to make the campus, in part, into a church or a political party or a substitute parent or a business management enterprise or an alternative government or a 'company town,' . . .these are not the roles the campus either should play or can play effectively."

#17 (5)

REJECTION OF ROLE OF CAMPUS AS SANCTUARY

Cf. 2.1 CAMPUS NOT A SANCTUARY FROM LAW - #8 (81) - C. # 175.

## **ACCOUNTABILITY - MULTIPURPOSE UNIVERSITY**

The Carnegie Commission recognizes the difficulty faced by multipurpose universities and institutions with general education commitments (as opposed to vocation or career emphasis) to demonstrate their capacity to accomplish certain stated objectives, thereby achieving a measure of accountability demanded by the rising level of public investment.

**#21 (23)**



PERIODIC REVIEW OF INSTITUTIONAL FUNCTIONS NECESSARY

The Carnegie Commission recommends that "Each institution of higher education should survey periodically the totality of the functions it performs to be sure that none of them contradict the ethos of academic life, and that none of the nonacademic functions could be as well or better performed by some quasi-university or external agency."

#17 ( 72)

1.0

# MEASURES OF OBJECTIVES

The Carnegie Commission recommends that "Colleges and testing agencies should work together in developing appropriate criteria and measures of value added to reflect a diversity of institutional objectives and outcomes."

#19 (40)

EQUALITY OF OPPORTUNITY

The Carnegie Commission insists that the "achievement of greater equality of opportunity...(is) a major purpose of higher education in the United States."

Cf. 3.0 USE OF RESOURCES TO ACHIEVE EQUALITY OF OPPORTUNITY -  
#22 (40) - c. #335.

#22 (40)

ACCESS TO HIGHER EDUCATION

"We (the Carnegie Commission) favor universal access to higher education but oppose pressures that operate in the direction of universal attendance."

- cf. 8.3 CAREER GUIDANCE - #21 (1) for results of universal access on labor market - C. #1337.
- 3.24 ENROLLMENT - #21 (2) for condemnation of universal attendance - C. #705.
- 1.4 UNIVERSAL ACCESS - #17 (30-31) for opinion of faculty and students C. #119.
- 3.24 ADMISSIONS IN A TIME OF UNIVERSAL ACCESS - #19 (3) for observation that community college "will be the single main route to universal access to higher education." - C. # 806.

#21 (1)

UNIVERSAL ACCESS

The Carnegie Commission repeats the recommendation that there should be universal access to higher education but not universal attendance.

#22 (36) and #3 (15)

UNIVERSAL ACCESS

The Commission does not favor universal attendance as a goal of American higher education, but it does favor "universal access for those who want to enter institutions of higher education, are able to make reasonable progress after enrollment, and can benefit from attendance."

#2 (11)

PURPOSE OF EDUCATION IN THE FUTURE

Alexander Mood maintains that in future years "a very important function of higher education will be development of models of the future...so that realistic options can be presented to students and to society.

Mood continues by declaring that "We need a new discipline concerned with integrating and synthesizing the whole of human experience and then projecting it into the future."

#R37 (37)

FUTURE CONSIDERATIONS FOR DETERMINING PURPOSE OF INSTITUTION

The Carnegie Commission suggests that "As debates inevitably proceed in the coming years over the reordering of national goals, the goal of fulfilling the aspirations of many young people for more useful roles in our society should be given high priority, along with the more widely recognized goal of overcoming critical human, urban, and environmental problems."

#15 (179)



1.0

THE BENEFITS AND COSTS OF HIGHER EDUCATION

The Carnegie Commission observes that "The benefits of higher education, actual and potential, dwarf the costs, whether viewed in monetary or in human terms."

#22 (16)

THE INSTITUTION AND THE COMMUNITY

- cf. 2.3 INCREASED TENSION BETWEEN CAMPUS AND SOCIETY - #13 (25)- C. #262.  
4.1 ACADEMIC BENEFITS OF URBAN-LOCATED INSTITUTIONS - #14 (62) - C.  
#926.  
6.2 ALL HEADINGS - C. # 1219-1228.

THE INSTITUTIONAL RESPONSE TO COMMUNITY PROBLEMS

The Commission "endorses greater efforts by institutions of higher education to apply their research and consulting and teaching skills to the problems of the surrounding neighborhoods and the people who live within them."

Cf. 4.1 NEED FOR NEW CURRICULAR PROGRAMS AND NEW CONCEPTS IN URBAN AFFAIRS  
#1 (45) - C. # 925.

4.1 URBAN ORIENTATION - #14 (62) - C. # 927.

#2 (19)

CAMPUS and COMMUNITY

1.1

"Many campuses are now primary cultural centers for their communities, providing resources for the presentation of art, theater, and lectures. With an audience at hand and capital facilities, many campuses can add substantially to the cultural capabilities of their communities."

#17 (26)

COMMUNITY PRIORITIES FOR HIGHER EDUCATION

The Carnegie Commission recommends that "preservation and enhancement of quality and diversity" be considered by higher education as a priority for action.

#22 (23)

# COMMUNITY GOALS: INTERACTION BETWEEN CAMPUS AND CITY

The Carnegie Commission recommends that "universities and colleges develop long-range plans which give adequate attention to the interaction between the campus and the neighborhood in which it is located."

#14. (84)

COMMUNITY SERVICE - QUASI-UNIVERSITY AGENCIES 1.1

The Carnegie Commission recommends the establishment of quasi-university agencies, "that would be separate from the university or college but would draw on its personnel," "through which faculty members and/or students could provide services, even on controversial matters, without directly involving the university or college in its corporate capacity."

#14 (77)

BENEFITS TO SOCIETY FROM HIGHER EDUCATION

cf. 5.0 BENEFITS FROM RESEARCH - #R37 (77)



## INSTITUTIONAL BENEFIT TO SURROUNDING AREAS

The Carnegie Commission recommends that "colleges and universities should seek to assist the surrounding areas through the operation of their employment and purchasing policies."

#14 (88)

1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1  
33 32 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1

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1.1

ACADEMIC BENEFITS FROM COMMUNITY SETTING

Cf. 4.1 ACADEMIC BENEFITS OF URBAN-LOCATED INSTITUTIONS- #14 (6)  
C. #926.

SHARED CULTURAL BENEFITS

1.1

Of. 6.2 COOPERATIVE CULTURAL EVENTS - #14 (89) - C. 1227.

**The Carnegie Commission recognizes the uniqueness which should characterize each type of educational institution, and encourages community colleges to retain their distinctness and "not expect to become four-year or graduate institutions."**

**#3 (1)**

# ROLE OF INSTITUTION

The Carnegie Commission recognizes the unique role of the various institutions in higher education, emphasizing that "public two-year colleges should be actively discouraged by state planning and financing policies from converting to four-year institutions."

#3 (16)



1.1

COMMUNITY GOAL - RELATIONSHIP WITH OTHER INSTITUTIONS

Cf. 4.1 DEVELOPMENT OF PARAPROFESSIONAL PROGRAMS - #15 (139) - C. # 936.

HIGHER EDUCATION and the CITY

1.1

"The challenge is to forge a new relationship between the campus and the city that will both aid the city and revitalize urban higher education."

#14 (13)



PUBLIC SERVICE

1.1

"Today there are demands that higher education do for our cities what our colleges and universities have done in the past for agriculture."

#14. (69)

DEGREE OF COMMITMENT

1.1

The Carnegie Commission states that most urban campuses will either "(a) expand their interests to include attention to the new urban problems consistent with their prior commitment to disciplinary teaching and research or (b) make an all-out commitment to their urban locality specifically and to the problems of the urban setting more generally as their preeminent purpose. Most institutions we believe will come under (a), but an increasing number will also come under (b)."

#14 (5)

The Carnegie Commission maintains that "the relationship between the 'city and campus' is not a single relationship between two clearly identified entities but rather a whole series of relationships. . .certain of (which). . .carry obligations which higher education has not yet adequately met and opportunities it has not yet fully realized."

#14 (17)

CAMPUS ASSETS to the COMMUNITY

1.1

The Commission observes that the campus can assist the city by:

- \* \* Creating places for its students
- \* Training students for work in the community
- \* Undertaking research, and giving advice and service through its faculty members and students
- \* Providing cultural and recreational facilities for local residents
- \* Employing local residents and attracting other employers to the area \*

#14 (6)

## EXAMINATION of URBAN ACTIVITIES

1.1

"Each institution must define and examine its own urban activities in the context of the combined activities of colleges and universities in the metropolitan area, the special needs of the area, and its own general institutional mission. Such an examination should include the various roles of the institution:

- \* Role as educator
- \* Role as creator of knowledge
- \* Role as provider of public services
- \* Role as corporate member of the community"

#14 (22)

## Higher education's function in society

"It (higher education) must expand its research and service into new and complicated areas, including environmental protection and the renovation of urban life."

#12 (7)

CAMPUS-CITY RELATIONSHIP

1.1

"American society is now irretrievably an urban civilization. Some of the greatest problems of the day involve the quality of life in the city. Higher education is now reflecting upon and also reflecting these two facts."

#14(2)

## CAMPUS-CITY RELATIONSHIPS

1.1

The Commission notes that the campus relates to the city:

- \* \* In serving urban students
- \* In training for new occupations related to the needs of the city
- \* In providing general understanding to students and the public about the nature of urban civilization
- \* In conducting research through its individual faculty members on urban problems
- \* In providing service through its faculty members and students to hospitals, schools, and so forth
- \* In being a neighbor living in the same general environment
- \* In acting as an employer of local citizens "

#14 (5 )



## URBAN INFLUENCE

1.1

"In more recent years, certain established institutions have added urban-oriented functions and some multicampus state institutions have developed new campuses in major metropolitan areas and have attempted to relate their development and mission to their urban environment."

#14 (21)

# IMPACT OF "GOWN" ON TOWN- AN IMPORTANT CONCERN

The Carnegie Commission observes that "in the context of the growing urban crisis. . .these impacts (effects of university on city) have taken on new significance requiring more conscious efforts on the part of the institution to maximize positive aspects and control potentially negative effects."

#14 (79)

1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1  
30 32 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1  
- 60 -

NEED FOR APPROPRIATE URBAN POLICY

1.1

Cf. 6.4 INSTITUTIONAL URBAN POLICY - A NECESSITY - #14 (94) -  
C. # 1229.

# CAMPUS CONTRIBUTION TO CITY ENVIRONMENT

The Carnegie Commission notes that "it is possible for a campus to contribute in a positive way to the physical environment of the city. Well-designed campuses may include recreational cultural, and park-like facilities which would not otherwise be available."

#14 (80)

## SERVICE IN PROBLEMS AREAS

The Carnegie Commission recommends that "Service should be extended on a more evenhanded basis to groups and persons in connection with problems where it may be helpful, subject to the major limitation that any service should be appropriate to the educational functions of higher education."

#17 (27)

## 1.1

**Cf. 6.2 PUBLIC SERVICE - RENEWED EMPHASIS - #14 (70)- C. #1219.**

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1.1

**ORGANIZATIONAL STRUCTURE MUST REFLECT CAMPUS RESPONSE TO CITY NEEDS**

Cf. 3.21 ADMINISTRATIVE REFLECTION OF URBAN-IMPACT - #14  
(91-92) - C. # 568.

CAMPUS PARTICIPATION IN URBAN-RENEWAL

The Carnegie Commission recommends that "where appropriate, colleges and universities participate actively in urban-renewal activities, but that only in unusual circumstances should this participation extend to investment of scarce institutional resources in housing development for the general community."

#14 (84)



FEDERAL FUNDING FOR URBAN COMMITMENT

Cf. 3.13 URBAN-GRANT PROGRAM - #14 (101) - C. # 520. also:  
ESTABLISHMENT OF URBAN-GRANTS PROGRAM - #14 (118) - C. # 519

INTERACTION BETWEEN UNIVERSITY AND CITY

Cf. 5.1 URBAN RESEARCH CENTERS - #14 (66) - C. #1203, also:  
URBAN OBSERVATORIES - C. # 1204 and #1205.

# AVAILABILITY OF 'LIFE-LONG LEARNING' FACILITIES TO PUBLIC

The Commission recommends that "Cultural and 'life-long learning facilities and opportunities should be made available to the general public on an expanded basis."

#17 (27)

NEIGHBORHOOD LEARNING PAVILIONS

cf. 4.4 "LEARNING PAVILIONS" - C. # 1175 - #1178.

METROPOLITAN EDUCATIONAL COUNCILS AND CENTERS

The Carnegie Commission recommends that "In each metropolitan area with population in excess of one million, we recommend establishment of:

- 1 a metropolitan higher education council
- 2 a metropolitan educational opportunity counseling center

cf. #14 (109-113) for details on proposed functions

#14 (113)

FACULTY AND THE COMMUNITY

Of. 3.22 FACULTY SERVICE TO THE COMMUNITY - #14 (73)- C. #622.

SERVICE TO THE CITY

The Carnegie Commission recommends that "There should now be more faculty consultation on urban, as earlier there was on rural, problems."

722 (29)

INSTITUTIONAL SERVICES WITHIN THE COMMUNITY

Cf. 6.2 COMMUNITY SERVICE ACTIVITIES - #14 (77) - C. #1220.



ELIMINATION OF NON-EDUCATIONAL ACTIVITIES FROM CAMPUS

The Carnegie Commission recommends that "Campuses should not add and, where feasible, should eliminate, operational, custodial and service function which are not directly tied to academic and educational activities and which can be performed as well or better by other agencies."

#17 (72)

SOCIAL JUSTICE

1.1

"Thus higher education is more important to equality of individual opportunity in finding a place among the established occupational and income classes, than it is in closing remuneration gaps among these classes--even though it also does this in the long run. Higher education is more concerned with making possible 'from each according to his abilities' than in assuring 'to each according to his needs'."

#17 (35)

1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1  
35 32 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1

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## SOCIETAL CONTRIBUTIONS OF HIGHER EDUCATION

1.1

The Carnegie Commission lists the areas of: skills, new and better ideas, understanding and tolerance, world view, participation, cultural heritage, social justice, ecology, scholarship, experimentation, and control of power, and maintains that "Higher education has made contributions in each of these areas." The Commission notes, however, that "It (higher education) is capable of making even more."

#22 (15)

"In communities where effective desegregation of local school systems has not been achieved, institutions of higher education should offer their resources of research and consultation to local school administrators and other community leaders."

**#2 (5-6)**

RESPONSE OF INSTITUTION TO EQUAL OPPORTUNITY

"Each institution (should) issue an annual report on its present and potential contributions to equality of opportunity."

#2 (13)

1.1

# PROVIDING EQUAL OPPORTUNITY FOR MINORITIES

The Carnegie Commission recommends "increasing equality of opportunity, particularly for students whose families are in the lower half of the socioeconomic scale-- which includes many minority families."

#9 (8)

1	7	4	2	1	7	4	2	1	7	4	2	1	7	4	2	1	7	4	2	1	7	4	2	1	7	4	2	1	7	4	2	1
33	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1

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1.1

# SERVICE TO ETHNIC MINORITIES

cf. 1.4 SERVICE TO ETHNIC MINORITIES - #2 (3) - C. #125.

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- C1 -

1.1

SERVICE TO AREAS OF LOW-INCOME POPULATIONS

"The Commission recommends that institutions of higher education, either alone or in conjunction with local school districts, establish educational opportunity centers to serve areas with major concentrations of low-income populations."

\* education opportunity centers are described by the Commission as combining the services of tutorial programs for improving academic skills of pre-college students and the benefits of information centers for providing counseling and recruiting advice.

#2 (7-8)



1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1  
33 32 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1

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1.1

## USE OF CAMPUS FACILITIES BY EDUCATIONALLY DISADVANTAGED

"The Commission recommends that institutions of higher education devote a portion of their summer schedule and facilities to camps for educationally disadvantaged children."

#2 (9)

11/20/68 - 488 - 11/20/68

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# IMPROVING VERBAL SKILLS OF EDUCATIONALLY DISADVANTAGED FOR THE COMMUNITY

"The Commission recommends the establishment of experimental programs for the early development of verbal skills, to be sponsored and administered by institutions of higher education with active participation from members of the community; and of programs for remedying verbal skill deficiencies at the secondary and higher levels of education."

#2 (9)

## COMMUNITY RESPONSE TO COMMUNITY PURPOSE OF INSTITUTION

The institutions who serve the community will be advertised by the community according to the Carnegie Commission recommendation that "Education Opportunity Counseling Centers. . .and other appropriate local agencies will have as one of their responsibilities the development and distribution of information about postsecondary educational resources including, but also in addition to, colleges and universities."

#21 (71)

The Carnegie Commission acknowledges that "knowledge-creating institutions need a special insulation from the pressures of political and economic interests, a special protection for their academic functions - and involvement with the city can threaten the needed isolation."

#14 (3)

# CAMPUS LIABILITIES TO THE COMMUNITY

The Commission observes that the campus can detract because:

"The campus, particularly when it is large in size, impedes the free flow of community life through it . . ."

"The campus takes property off the tax rolls."

"Many campuses turn their least pleasing aspect - their parking lots toward the community . . ."

"Uncertain campus-growth plans may result in deteriorated maintenance of surrounding properties."

Student 'digs' are seldom well maintained

Some campuses draw around them 'street people,' drugs, and crime.

#14 (6)

# COOPERATIVE ARRANGEMENTS BETWEEN INSTITUTIONS

Although admitting that "Universities and colleges tend to be reluctant to relinquish their own sovereignty in program development and aim continuously at strength in all fields," the Carnegie Commission "recommends that colleges and universities continue to seek ways of sharing facilities, courses, and specialized programs through cooperative arrangements; that existing consortia make continuous efforts toward increasing the effectiveness of their cooperative programs; and that institutions—especially small colleges—that are not now members of consortia carefully consider possibilities for forming consortia with neighboring institutions."

cf. 7.8 COOPERATIVE LIBERAL ARTS CENTERS - #9 (94) for suggested shared facility to provide academic support for improved undergraduate education - C. # 1310.

#9 (93-94)

# DIFFERENTIATION OF FUNCTIONS AMONG CAMPUSES AND FIELDS

The Commission recommends that "Coordinating councils, consortia, and multi-campus systems should adopt policies of clear differentiation of functions among campuses and of assigned specializations among fields. Such differentiation of functions should follow the logic of complementarity of interests.

#17 (75)

DEVELOPMENT OF CLUSTER COLLEGES

"The Commission recommends that universities, colleges, and state planning agencies carefully study and adopt plans for the development of cluster colleges."

cf. 3.12, 3.13, 3.14 FUNDS FOR CLUSTER COLLEGE RESEARCH for recommendation of supporting funds for cluster college study - #9 (89) - C. # 440.

#9 (89)



NEED FOR NEW COLLEGES IN URBAN AREAS EXCEEDING 500,000 POP.

The Carnegie Commission believes that "there is a need, especially in large metropolitan areas, for an adequate supply of relatively open-access comprehensive colleges and community colleges, especially when existing universities in the area are national, rather than regional, universities. . ."

Warning: The Commission alerts educators to the possibility of radical changes in anticipated needs for urban areas precipitated by increasing popularity of external degree programs and open universities.

Cf. 4.4 for specific details of these programs - C. #1168 - #1174.

#9 (98-104)

STATE UNIVERSITY - RELATIONSHIP TO COMMUNITY

"It (higher education) will need to strengthen its connections with society. The state university campus that once stood alone and supreme in the affection of the people of the state now finds many more competitors on its flanks."

#21 (14)

THE STATE AND HIGHER EDUCATION

Cf. 3.12 STATE EFFORT - #5 (7) - C. # 410.

TOTAL POSTSECONDARY AGE GROUP

1.2

"Higher education has an obligation to join with and to assist other institutions in society in providing educational opportunities for all persons who seek them beyond the secondary level." (36)

Carnegie Commission Recommendation: "The total post-secondary age group should become more the subject of concern, and attention should be comparatively less, concentrated on those who attend college." (37)

#17 (36-37 )

ROLE OF INSTITUTION IN STATE PLAN FOR UNIVERSAL ACCESS

"The Commission recommends that each state plan to provide universal access to its total system, but not necessarily to each of its institutions, since they vary greatly in their nature and purposes."

Cf. 1.0 (Card # 29, 30, and 31)

#2 (13)

1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1  
33 32 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1

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1.2

ENCOURAGEMENT OF INSTITUTIONAL DIVERSITY WITHIN STATE

Cf. 2.32 STATE ENCOURAGEMENT OF INSTITUTIONAL DIVERSITY - #5 (34)  
C. #270.

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# INSTITUTIONAL COOPERATION WITH COORDINATING AGENCIES

The Carnegie Commission recommends that "institutions examine their own levels of cooperativeness to determine whether failures to respond to advisory agencies might lead more surely and quickly to establishment of regulatory agencies."

Cf. 2.32 INSTITUTIONAL ACCEPTANCE OF STATE AGENCIES - #5 (31)  
C. # 283.

#5 (31)

1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1  
33 32 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1

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1.2

STATE PLANNING OF TEACHER EDUCATION.

Cf. 4.11/

4.12/4.13 STATE PLANNING OF TEACHER EDUCATION - #15 (79) for recommendation concerning state reaction to current surplus of teachers - C. # 979.



SOCIETAL DEMANDS ON HIGHER EDUCATION

1.2

Societal demands on higher education include:

- \*"expertise that will aid in solving today's social problems"
- \*"manpower training geared to the state's changing employment patterns"

#5(8)

# SERVICE TO STATE BOARD MEMBERS

The Carnegie Commission recommends that "Universities, in conjunction with state school boards associations, should experiment with various means of providing school board members with information on crucial issues."

11 (100)

# ESTABLISHING STATE RESIDENCY

The Commission recommends that, regarding the establishment of state residency, states should:

1. "carefully review their residence requirements and modify them if necessary for the purpose of granting immediate residence status to students whose families came to the state for other than educational reasons.
2. "review the implementation of requirements of its own institutions to insure similar application of the criteria among public institutions."

#5 (59)

NATIONAL CONTRIBUTION OF EDUCATION

"One of the most essential functions of higher education is its contribution to the advance of knowledge in the nation."

71 (08)

HIGHER EDUCATION - NATIONAL ASSET AND RESPONSIBILITY

The Carnegie Commission observes that "Higher education is now a national asset and therefore a national responsibility."

Op. 1.13 FEDERAL SUPPORT FOR INSTRUCTIONAL COSTS - PLO (14) -  
C. # 475.

13 (13)

NATION'S FUTURE DEPENDENT ON INSTITUTIONAL COMMITMENT TO EXCELLENCE AND  
EQUAL OPPORTUNITY

"The Commission believes that a commitment to adequate support for better educational systems, to comprehensive student aid, and to removing the consequences of discrimination is truly basic to the nations' future."

#2 (29)

NATIONAL SELF-RENEWAL

1.3

"Faculty members have an important role in the processes of national self-renewal. They have beyond what is available to many others of their fellow citizens, more time, more facilities, more institutional freedom to evaluate specific problems and suggest remedies, and to assess the society in its totality and to propose improvements."

#17 (44)

NATIONAL EFFECTS OF RESEARCH

"...research is predominantly a national concern....The preeminence of the United States in the advancement of knowledge and technology is inextricably-associated with the high quality of research in its leading research universities."

cf. 5.0 - C, # 1189 - # 1202 for information or the Commission's recommendations concerning organized research.

#12 (73)



NATIONAL PRIORITIES OF HIGHER EDUCATION

Cf. 3.15 PURPOSE OF FEDERAL FUNDING. - #1 (40) - C. # 458.

EDUCATIONAL PRIORITY OF NATION

The Carnegie Commission observes that "Improvement of the nation's schools is the first educational priority in the nation; and within the schools improvement in the basic skills, especially in large city schools, is the first priority. Colleges and universities should recognize this fact and help to provide the resources, incentives, and rewards for faculty members who commit themselves to this task."

#19 (57)

# RELATIVE ACCESSIBILITY of HIGHER EDUCATION

1.3

TABLE 5. Free access colleges by state (fall 1968)

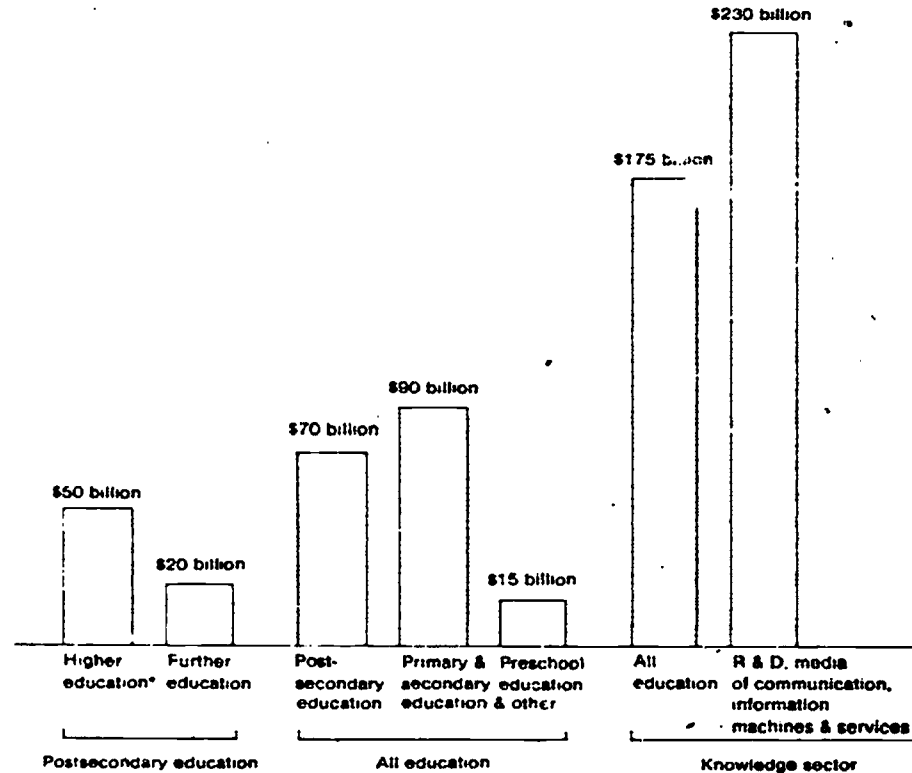
Regions and states	Population in millions (1967)	Number of colleges	Free access	Percent of population within commuting distance of free access colleges	White	Black	Spanish surname
Northwest	48.2	647	92	38	38	37	-
Connecticut	2.9	47	13	87	87	90	-
Maine	1.0	22	0	0	0	-	-
Massachusetts	5.4	105	13	52	53	25	-
New Hampshire	0.7	20	2	44	44	-	-
New Jersey	7.0	57	10	38	36	59	-
New York	18.3	206	34	36	38	23	36
Pennsylvania	11.6	155	16	25	24	41	-
Rhode Island	0.9	15	1	41	40	60	-
Vermont	0.4	20	3	41	41	-	-
South	61.4	821	312	51	50	52	-
Alabama	3.5	50	24	56	57	54	-
Arkansas	2.0	23	12	43	43	42	-
Delaware	0.5	6	2	35	35	44	-
D.C.	0.8	19	3	82	82	81	-
Florida	6.0	59	26	64	62	72	-
Georgia	4.5	56	14	30	33	24	-
Kentucky	3.2	47	17	52	51	69	-
Louisiana	3.7	21	15	48	49	47	-
Maryland	3.7	50	13	57	59	47	-
Midwest	3.6	54	71	29	30	24	-
Minnesota	4.6	67	15	41	39	60	-
Missouri	1.4	28	8	16	16	0	-
Nebraska	0.6	16	8	30	30	-	-
North Dakota	10.5	116	7	12	12	19	-
Ohio	0.7	16	3	12	12	-	-
South Dakota	4.2	70	22	47	47	89	-
Wisconsin	34.0	388	192	51	51	48	55
West	0.2	10	8	31	31	-	-
Alaska	1.6	14	8	38	39	42	30
Arizona	19.2	187	86	60	60	48	66
California	2.0	29	15	42	41	38	48
Colorado	0.7	11	5	48	48	-	-
Hawaii	0.7	11	6	40	40	-	-
Idaho	0.7	12	8	31	31	-	-
Montana	0.4	2	0	0	0	0	-
Nevada	1.0	16	8	22	24	38	18
New Mexico	2.0	38	13	49	49	75	-
Oregon	1.0	12	5	20	19	-	-
Texas	3.1	79	23	51	51	53	-
Washington	0.3	7	7	43	43	-	-
Wyoming	0.3	7	7	43	43	-	-
TOTAL U.S.	198.0	2,906	789	42	42	47	47

Source: Chronicle of Higher Education, October 19, 1970, p. 5.

#5 (54-55)

# EXPENDITURES BY THE "KNOWLEDGE" SECTOR OF SOCIETY

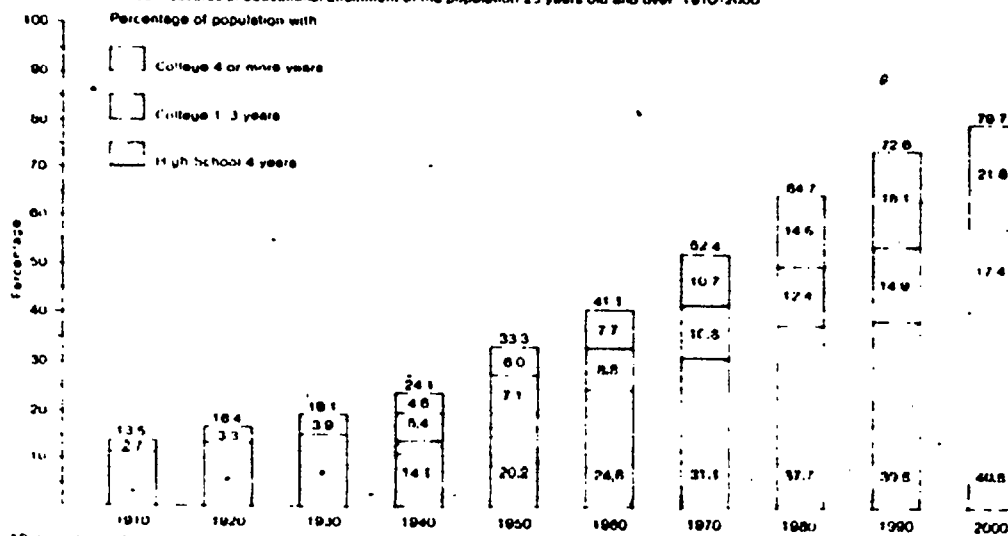
CHART 3 Expenditures including forgone income, forgone taxes, and implicit rents, in billions of dollars, estimated roughly for 1970 by major segments of the knowledge sector of American society



\*Includes all of higher education, including non-degree-credit studies  
 SOURCE Estimated by the Carnegie Commission staff using the 'knowledge industry' structure proposed by Machlup (1962). Components other than formal education, such as research and development, media of communication, information machines, and information services, have been assumed to grow at the same rate as formal education and research and development during the period 1958 to 1970.

# - 110 - SELECTED MEASURES OF EDUCATIONAL ATTAINMENT OF THE POP. <sup>1.3</sup>

CHART 2 Selected measures of educational attainment of the population 25 years old and over 1910-2000



# SELECTED MEASURES OF EDUCATIONAL ATTAINMENT OF THE POP.

APPENDIX TABLE 2 Selected measures of educational attainment of the population 25 years old and over, 1910 to 1970, with Current Population Survey (CPS) and Carnegie Commission projections to the year 2000

YEAR	PERCENTAGE WHOSE HIGHEST YEAR COMPLETED WAS				
	MEDIAN YEARS COMPLETED	FOUR OF HIGH SCHOOL OR MORE	FOUR OF HIGH SCHOOL	ONE TO THREE OF COLLEGE	FOUR OR MORE OF COLLEGE
1910	8.1	13.5	n.a.*	n.a.	2.7
1920	8.2	16.4	n.a.	n.a.	3.3
1930	8.4	19.1	n.a.	n.a.	3.9
1940	8.6	24.1	14.1	5.4	4.6
1950	9.3	33.3	20.2	7.1	6.0
1960	10.6	41.1	24.6	8.8	7.7
1970	12.1	52.4	31.1	10.6	10.7
1980					
(CPS SERIES 1)	12.4	65.4	37.9	12.5	15.0
(CARNEGIE)	12.4	64.7	37.7	12.4	14.6
1990					
(CPS SERIES 1)	12.6	74.2	39.3	14.8	20.1
(CARNEGIE)	12.6	72.6	39.5	14.9	18.1
2000					
(CARNEGIE)	12.8	79.7	40.5	17.4	21.8

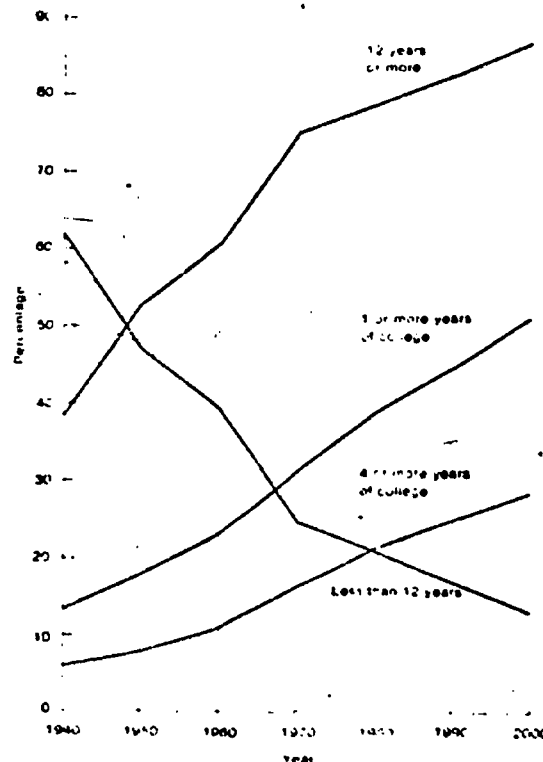
\* n.a. = not available.

NOTE: Detail may not add to total because of rounding

SOURCE: Prepared by John Shea of the Carnegie Commission staff, from Bureau of the Census and Carnegie Commission on Higher Education materials and assumptions.

# SELECTED MEASURES OF EDUCATIONAL ATTAINMENT OF POP.

APPENDIX C. Selected measures of educational attainment of the population 25 years of age and over, 1940-2000.



SOURCE: Bureau of Economic Analysis, 1993, based on Bureau of the Census data. College enrollment in male and female and assumptions.

#22 (96)

LITTON ASS - MERCE

The increasing number of adult students on college and university campuses (cf. 3.24 AGE OF STUDENTS ON COLLEGE AND UNIVERSITY CAMPUSES - #21(24)-C.#683 has led the Carnegie Commission to conclude that learning beyond high school is not solely a preparation for life, but "a part of life itself."

#21 (24)



# LIFELONG EDUCATION

Lifelong education will remain largely a dream until some means can be found to ease the financial burden for individuals. The Carnegie Commission, however, holds out the hope that "the movement toward recurrent lifetime education with adequate provision to offset personal income loss appears to be a logical step for the last quarter of the twentieth century."

#21 (58)

# EFFECT OF HIGHER EDUCATION ON THE QUALITY OF LIFE

Although the Carnegie Commission predicts that "Higher education will confer less class status than it once did and less occupational advantage than it now does," the Commission observes that higher education " will become more of a direct instrument for affecting the quality of life."

#21 (13)

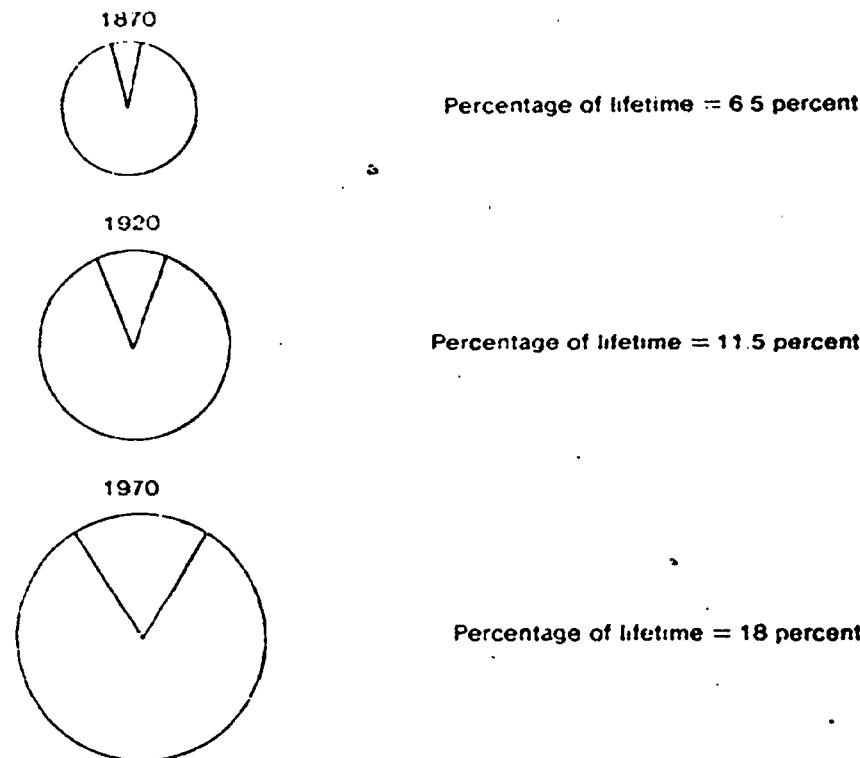
CHANGE IN EDUCATIVE VALUE OF COLLEGE

Observing that "much more of education takes place before college outside of college, and after college than ever before," the Carnegie Commission emphasizes that "college today supplies a smaller proportion of lifetime knowledge. It is one of many sources of knowledge and less a rare and one-time opportunity."

#6 (7-8)

# AVERAGE YEARS SPENT IN FORMAL EDUCATION

CHART 1 Average years\* spent in formal education



\*Adjusted for greater absenteeism and shorter school years in 1870 and 1920 than in 1970.

NOTE Circumference is proportional to life expectation at birth: 41 years in 1870, 54 years in 1920 and 71 years in 1970.

EDUCATIONAL JUSTICE

1.4

"We (Carnegie Commission) delineate educational justice as reasonable equality of opportunity to demonstrate ability, and not as equality of academic results in terms of grades given and degrees awarded to all individuals regardless of performance. Higher education is increasingly important to the realization of social justice so defined."

#17 (30)

# UNIVERSAL ACCESS

1.4

"This (Carnegie) Commission has strongly supported universal access to the system of higher education, although it is equally opposed to pressures for universal attendance....Universal access is likewise strongly supported by faculty members(71 percent), graduate students(88 percent), and undergraduate students(97 percent), ..." See table below:

Policy	Faculty members (percent "yes")	Graduate students (percent "yes")	Undergraduates (percent "yes")
"Opportunities for higher education should be available to all high school graduates who want it."	71	88	97
"More minority group undergraduates should be admitted here even if it means relaxing normal academic standards of admission"	40	37	29
"The normal academic requirements should be relaxed in appointing members of minority groups to the faculty."	22	19	25

SOURCE: Carnegie Commission Survey of Faculty and Student Opinion.

Cf. 1.0 (Card # 29, 30, 31) and 1.2 (# 94).

#17 (30-31)

EQUALIZATION OF OPPORTUNITY FOR ATTENDANCE

The Carnegie Commission maintains that "the first priority in higher education today is to move as rapidly as possible toward the equalization of opportunity to attend college."

#18 (103)

PROVIDING THE OPPORTUNITY TO MAXIMIZE THE QUALITY OF LIFE

The Carnegie Commission designates as the main direction of development in higher education "an effort at the creation of a more diverse series of optimal learning environments to meet more precisely the needs of each college-age person— diverse as these needs are and hard to accomplish as this goal will be—so that each young person will have an equality of opportunity, through one form of education or another, to maximize the quality of his or her life."

#13 (68)



EQUAL EDUCATIONAL OPPORTUNITY

The Carnegie Commission maintains that "all remnants of inequality of educational opportunity due to race, sex, family level of income, and geographical location should be overcome substantially by 1980 and as completely as possible by the year 2000."

#22 (35)

1	7	4	2	1	7	4	2	1	7	4	2	1	7	4	2	1	7	4	2	1	7	4	2	1	7	4	2	1	7	4	2	1
33	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1

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1.4

# "OPEN" SYSTEM ENDORSED

The Carnegie Commission "accepts and endorses the concept of an 'open' system" in higher education and further recommends that "the barriers to access inherent in economic deprivation should not, in fact close it (higher education) to some."

#2 (1)

B33	B32	B31	B30	B29	B28	B27	B26	B25	B24	B23	B22	B21	B20	B19	B18	B17	B16	B15	B14	B13	B12	B11	B10	B9	B8	B7	B6	B5	B4	B3	B2	
1	7	4	2	1	7	4	2	1	7	4	2	1	7	4	2	1	7	4	2	1	7	4	2	1	7	4	2	1	7	4	2	1

LITTON AGS - MC816

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33 32 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1

- 124 -

1.4

## EQUAL OPPORTUNITY

The Carnegie Commission recommends that "all remaining barriers to equality of educational opportunity which are subject to public policy be removed so that ability, motivation, and individual choice are the only determinants of college attendance (by 2000)."

#2 (4)

SERVICE TO ETHNIC MINORITIES

"...all inequities which are found in curricula, policies, and facilities of our colleges themselves (should) be removed so that all ethnic groups may be adequately served."

#2 (3)

INSTITUTIONAL ROLE TOWARDS STUDENTS IN LOWER SOCIOECONOMIC LEVEL

cf. 1.1 PROVIDING EQUAL OPPORTUNITY FOR MINORITIES - #9 (8) - C. # 79.

1	7	4	2	1	7	4	2	1	7	4	2	1	7	4	2	1	7	4	2	1	7	4	2	1	7	4	2	1	7	4	2	1
33	32	31	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1

- 127 -

1.4

## ADMITTING SERVICES FOR EDUCATIONALLY DISADVANTAGED - POOL OF RESOURCES

"The Commission recommends the establishment of recruiting and counseling pools among neighboring colleges and universities to coordinate resources and staff efforts for admitting educationally disadvantaged candidates."

#2 (8)

- 128 -

Function of a university - student-oriented

"Colleges and universities are engaged in the transmission and advancement of knowledge, in teaching their students how to tackle complex problems and issues so that the process of continued learning can proceed effectively throughout their lives, and in providing an environment in which students can resolve the conflicts in values and outlooks that tend to seem particularly important in the college-age years."

#12 (viii-ix)

# NEED TO "HUMANIZE" HIGHER EDUCATION

The Carnegie Commission observes that "Now it (higher education) needs to be more completely 'humanized' in the sense (a) of being made more accessible to more young people and (b) of being further adapted to the individual characteristics and attributes of its students."

#13 (1)



# HUMANIZATION OF HIGHER EDUCATION

The Carnegie Commission notes that expanding technology in instructional support services contributes to the "humanization" of higher education (1) by making access easier and (2) by paying more attention to the specific needs of individual students."

11 (3)

# STUDENT AND COLLEGE

The Carnegie Commission recommends that "Schools, colleges, and testing agencies should work together in developing a complete and coherent information system that enables sound decision making by both students and colleges. Colleges should prepare frank, accurate, and complete descriptive materials, so that students will know as much about colleges as the colleges know about students."

#19 (49)

# RESPONSIBILITIES OF CAMPUS FOR STUDENTS

The Carnegie Commission observes that "The campus has a basic responsibility to provide good educational opportunities for its students (1) to develop an understanding of society, (2) to obtain academic and technical competence in selected fields, (3) to fulfill appropriate standards of academic conduct, and (4) to explore cultural interests and enhance cultural skills."

#17 (19)

## LEARNING OPPORTUNITIES - RESPONSIBILITY OF THE INSTITUTION <sup>1.4</sup>

The Carnegie Commission recommends that "More broad learning experiences should be made available to students, and more opportunities for creative activity should be provided as through independent study and the creative arts."

#17 (21)

# STUDENT-DIRECTED ACTIVITIES OF INSTITUTION

The Carnegie Commission insists that "Colleges should concentrate more upon the "value added" by the college experience. The quality of a college should be determined more by what it does for the students it enrolls and less by the characteristics of the students themselves."

#19 (3-4)

# RELATIONSHIP BETWEEN CAMPUS AND STUDENT DEVELOPMENT

The Carnegie Commission advises that "the campus must seek to provide effective opportunities in the classroom and a 'constructive' campus environment. . . But it must not seek to fulfill the responsibility for the total development of its students."

#17 (17)

STUDENT-ORIENTED GOAL OF INSTITUTION

Alexander Hood proposes that "the most important role that colleges and universities can play for many youths is to provide a residence where they can learn to live by their own decisions."

cf. 4.4 A LIVING-FOCUSED CURRICULUM - #R37 (68-70) - C. #1140.

#R37 (67)

# STUDENT-ORIENTED GOAL OF FUTURE INSTITUTIONS

Alexander Hood anticipates that future campuses will serve two primary functions: "...to provide an intermediate step between home and independent adulthood... (and to provide students with a broad understanding of the world in which they will live and what their realistic options are."

Hood continues by noting that such functions are accomplished by only a "highly personalized education."

cf. 4.4 GENERAL EDUCATION CURRICULUM IN THE FUTURE - #37 (33)-  
C. # 1147.

#37 (32)



\_\_\_\_\_

The Carnegie Commission summarizes the recommendations for reform on campus by observing that "the central purpose (of these recommendations) is to enhance the educational experiences of students by providing them with a greater series of microenvironments so placed that each student may be more likely to find that particular set of surroundings that will maximize his or her opportunity to gain in skill and wisdom."

#13 (60)

PERSONAL DEVELOPMENT OF STUDENT - THE PROPER CONCERN OF HIGHER EDUCATION

The Carnegie Commission justifies the individual personal development of the student as the proper concern of the higher education institution by asserting that "...intellectual development bears an intricate relationship to affective interpersonal, and ethical development and, thus, the latter is potentially a proper concern for an academic institution."

#13 (56)

# DEVELOPMENT OF TALENT - BENEFIT OF HIGHER EDUCATION

1.4

"The talents of individuals, in their many dimensions, can be more fully developed by college attendance and need to be more fully developed as the surrounding society grows in scale and complexity."

22 (14)

# STUDENT BENEFITS FROM COLLEGE EDUCATION

The Carnegie Commission maintains that "Higher education can benefit many more individuals in more ways in the future than it did in the past." The Commission notes the following areas of benefit:

1. work - "The private returns to a college education, measured by additional net income after taxes as against additional private investment, now runs about 10 percent or more."
2. decisions - "A college education leads to greater ability to obtain and analyze facts in the process of making...decisions."
3. quality of life - "A college education opens up new interests in the creative arts, in participation in community affairs, in intellectual pursuits."
4. life options - "Going to college generally enhances the ranges of options open to individuals-in jobs, in living locations, in choice of mates, in selection among lifestyles."

422 (15)

# ACADEMIC RIGHTS AND EXPECTATIONS OF STUDENTS

Believing that students have a right to know what to expect and to be able "to seek relief if their warranted expectations have been disappointed," the Carnegie Commission advocates "the provision on campuses of a "Code of Teaching Responsibility" to set forth what is expected of faculty members in their teaching endeavors and a statement of the "Rights of Students to Receive Instruction," along with grievance machinery through which students may seek relief if they believe that the code has not been met or that their rights have not been accorded due consideration."

#13 (64)

THE INSTITUTION AND THE STUDENT

Cf. 2.13 - C. #227 - #. 237 for information regarding student participation in governance decisions within the institution

# RELEVANCE OF CURRICULUM TO STUDENT INTERESTS AND LEARNING EXPERIENCES

Cf. 4.0 RELEVANCE OF CURRICULUM - #13 (47)- C. #912.

RECOMMENDATIONS FOR HIGHER EDUCATION

The Carnegie Commission recommends that "advancement of social justice" be considered by higher education as a priority for action.

(3)



cf. B. PROVIDING EMPLOYMENT EXPERIENCE - #6 (13) - C. #1321.

# DESIRES OF UNDERGRADUATES

- 147 -

1.4

TABLE 1 Aspirations and attainments of undergraduates

Goal	Consider essential (percent)	Consider essential and received		
		None (percent)	Some (percent)	Much (percent)
Learning to get along with people	77	7	36	57
Formation of values and goals of my life	72	13	51	36
Detailed grasp of a special field	62	8	56	36
Well-rounded general education	57	2	52	46
Training and skills for an occupation	57	15	53	32
"Strongly agree" or "agree with reservations" (percent)				
Undergraduate education in America would be improved if:				
More attention were paid to the emotional growth of students	83			
The chief benefit of a college education is that it increases one's earning power	48			
Responding "not enough" (percent)				
All in all, in terms of your own needs and desires, how much of the following have you had:				
Outlets for creative activities	55			

SOURCE: Carnegie Commission Survey of Faculty and Student Opinion.

#17(15)

LITTON 400 - MICRO

# - 148 - 1.4ASPIRATIONS OF GRADUATE STUDENTS

**TABLE 2**  
*Aspirations of  
graduate  
students*

Goal	"Strongly agree or "agree with reservations" (percent)
<i>Continue my intellectual growth</i>	96
<i>Increase my earning power</i>	84
<i>Better serve mankind</i>	76
<i>Prepare for an academic career</i>	68
<i>Satisfy job requirements</i>	66
<i>Obtain an occupation with high prestige</i>	60
<i>Contribute to my ability to change society</i>	60
<i>Get a teaching credential</i>	39
<i>Find myself</i>	27
<i>Engage in political activities</i>	12

SOURCE: Carnegie Commission Survey of Faculty and Student Opinion.

#17 (16)

# STUDENT-FOCUSED REFORMS

The Carnegie Commission proposes academic reforms which will "enhance the opportunity for each student...to find a learning environment that will best help him to create for himself a fuller and more satisfying life...that will most enhance his acquisition of desired skills and of wisdom...(and) which will make it more possible for each student to find an instructional situation which is, for him, as close to the ideal as humanly possible."

#13 (1)

## STUDENT-ORIENTED REFORMS

The Carnegie Commission recommends the following reforms:

- Preservation and extension of the diversity of programs among and within colleges and universities
- A new emphasis on a "broad learning experience" at the undergraduate level while creating more options for such experiences from among which students may select
- Provision of more "relevant" curricula field by field--we shall give our definition of "relevance"
- A reemphasis on the importance of teaching
- The incorporation of student views into the process of deciding on the curriculum and in evaluating teaching
- A greater emphasis on the library as an active participant in the instructional process
- Reduction, to the extent feasible and through persuasion, of the reluctant attenders
- Greater attention to advising
- A reexamination of graduate education
- Creation of processes which encourage continuing innovation and its evaluation

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1.4

## INTERSTATE AGREEMENTS ON RESIDENCY EXCHANGES

The Carnegie Commission recommends that "states enter into reciprocity agreements for the exchange of both undergraduates and graduate students in those situations where the educational systems of each of the states will be enhanced by such an exchange agreement."

#5 (60)

# BASIC TEST OF GOVERNANCE

"The basic test of governance, as we (Carnegie Commission) see it, is whether the decisions actually made do or do not enhance the long-run welfare of higher education and of society, and the quality of the individual campus, and whether the solutions are appropriate to and commensurate with the problems."

#16 (79)

NEED TO PRESERVE SYSTEM OF GOVERNANCE

The Carnegie Commission recommends that certain features of the existing system of governance in the United States be preserved and enlarged, including:

- " A reasonable degree of independence from state and federal control
  - Institutional separation from partisan political activity
  - Essential academic freedom for faculty members and students
  - Essential faculty influence over academic affairs
  - Availability of many options from among which students may choose in selecting their campuses, their periods of attendance, their fields of study, and their courses
  - Diversity among institutions
  - Adaptability to changing circumstances
  - A reasonable degree of consent within the campus
  - A reasonable degree of public support externally"

cf. individual categories under GOVERNANCE for elaboration of specific recommendations

#16 (11)



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- 154 -

2.0

## INSTITUTIONAL INDEPENDENCE

"Higher education, however, should be substantially self-governing in its:

- Intellectual conduct
- Academic affairs
- Administrative arrangements"

The Carnegie Commission clarifies that in these three areas, where a substantial degree of independence is essential, "Selective independence—not autonomy—is the issue as we see it."

#16 (18)

# MAINTAINING INSTITUTIONAL INDEPENDENCE

The Commission recommends the "Development of guidelines for the exercise of public authority that will guarantee the essential independence of institutions of higher education."

712 (91)

## PRESERVING INSTITUTIONAL INDEPENDENCE

The Carnegie Commission maintains that each institution "must preserve its institutional integrity and essential independence at all costs."

#14 (4)

cf. #16 (133-200) - Appendix C - for a summary of recommendations or proposals regarding governance which are contained in reports of institutional committees and other commissions or associations

# INTERNAL GOVERNANCE - DIVERSE APPROACHES

The Carnegie Commission considers the existing diversity in internal governance patterns both "inevitable and to a degree desirable..." The Commission further maintains that "governmental methods should be related to the specific functions being performed...", although they recommend that the central coordination of these functions or methods is the necessary role of the institutional board.

cf. 2.2 BOARD - REVIEW OF GOVERNANCE FUNCTIONS - #16 (35) - C. # 252.

#16 (14)

## GOVERNANCE PRIORITIES FOR HIGHER EDUCATION

The Carnegie Commission recommends that "Enhancement of constructive change" and "Achievement of more effective governance" be considered by higher education as priorities for action.

#22 (23)

The Commission recommends that "evaluation of and response to events on a campus be based upon the distinction between dissent and disruption."

The Commission recommends that "evaluation of and response to events on a campus be based upon the distinction between dissent and disruption."

附 (13)

# BILL OF RIGHTS AND RESPONSIBILITIES FOR MEMBERS OF THE INSTITUTION

The Carnegie Commission has established the following Bill of Rights and Responsibilities for institutional members:

"Members of the campus have an obligation to fulfill the responsibilities incumbent upon all citizens, as well as the responsibilities of their particular roles within the academic community..."

1. As citizens, members of the campus enjoy the same basic rights and are bound by the same responsibilities to respect the rights of others, as are all citizens...
2. All members of the campus have other responsibilities and rights based upon the nature of the educational process and the requirements of the search for truth and its free presentation...
3. The institution, and any division or agency which exercises direct or delegated authority for the institution, has rights and responsibilities of its own...
4. All members of the campus have a right to fair and equitable procedures which shall determine the validity of charges of violation of campus regulations..."

Cf. #8 (38-41) for details of Bill of Rights and Responsibilities

#8 (38-41)



ACADEMIC RIGHTS AND RESPONSIBILITIES

cf. Appendix C - #13 for

1. Code of teaching responsibility and statement of rights of students to receive instruction from Michigan State University
2. Code of Professional Rights, responsibilities and conduct of University faculty, and University disciplinary procedures from the University of California
3. American Association of University Professors: Freedom and Responsibility (1970)

#13 (121-135)

RIGHT TO DISSENT

The Carnegie Commission reaffirms its strong support for the right of dissent set forth in Dissent and Disruption (#8) while equally strongly opposing disruption. The Commission confirms that "Dissent is not only a basic right in a democratic society but also an essential mechanism for the self-renewal of society."

#13 (22)

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33 32 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1

- 164 -

2.1

# PROTECTION OF RIGHT TO DISSENT

The Carnegie Commission recommends that "dissent be protected as a democratic right and a major means of renewal for society; that repression be rejected."

#8 (13)

LITTON ASS - MICROFILM

INTERFERING WITH CONSTITUTIONAL RIGHTS

The Carnegie Commission recommends that "it should be unlawful to interfere in any way with any person's exercise of his constitutional rights. Aggrieved persons should be able to bring civil action for appropriate relief, and United State district courts should be given original jurisdiction to grant permanent or temporary injunctions, temporary restraining orders, or any other orders, and to award damages."

#8 (75)

# DISSATISFACTION ON CAMPUS

The Carnegie Commission suggests that "dissatisfactions on campuses and their public expression should be viewed as the reflection of many problems and conditions both in society and on the campuses. Both campus and society share responsibility. Dissenters are also responsible for their choice of tactics in advancing their goals-for some of their tactics are the source of the dissatisfactions and negative reactions of the public at large."

78 (16)

# AMERICAN CIVIL LIBERTIES UNION: STATEMENT ON CAMPUS DEMONSTRATION

## American Civil Liberties Union: Statement on Campus Demonstrations

The manner in which demonstrations have been conducted, at least in some notorious cases, must be condemned as disproportionate to the grievances of the students and as categorically in violation of basic principles of academic freedom. The fact that significant reforms may be won by violent action does not justify the resort to violence, even if such action seems plausible to some in a society marked by violence both internally and in its external actions, and even if an apparent justification after the fact seems to be provided by a violent response, for example a police action. The so-called "politics of confrontation" invites, and is intended to invite, such a response, but in so far as it seeks its ends by means which infringe on the liberties of others it is out of keeping with the principles by which and the purposes for which the university exists.

SOURCE: American Civil Liberties Union press release, June 25, 1968.

MAINTAINING INSTITUTIONAL INTEGRITY

The Carnegie Commission recommends that "Each institution of higher education should establish a policy of self-restraint against disruptive activities, against improper use of campus facilities, against improper political indoctrination of students against selection and promotion of faculty members in accordance with their political beliefs, and against commitment of the institution as such to the pursuit of specific external political and social changes; each institution should be prepared to defend its own integrity."

#17 (51-52)

MONITORING ORGANIZED PROTEST

The Commission recommends that "On campuses where organized protest does occur, faculty and student marshals might be available to monitor these events and to report on violations of campus rules and excessive actions by law enforcement officers. The marshals should be organized so that they are available on a regular, ongoing basis."

#8 (65)



# RESPONSE TO NONVIOLENT DISRUPTION

The Commission recommends that "in cases of nonviolent disruption, to the extent possible, procedures internal to a campus be used initially and nonviolent actions be met by responses which do not use force.

Violent actions, involving injury to persons or more than incidental damage to property, should be met immediately by enforcement of the law, using internal and external personnel to the full extent necessary."

#8 (58)

# STEPS TOWARD DISSEMINATING AND COPING WITH DISRUPTION

The Carnegie Commission recommends the following steps toward disseminating and coping with disruption:

1. "Adoption, campus by campus, of a 'bill of rights and responsibilities' for members of the institution."
2. "Development by each campus of effective measures for consultation and contingency planning in the event of disruptive emergencies."
3. "Creation by each campus of effective judicial procedures."

78 (2)

ENDING DISRUPTION

- 172 -

2.1

The Commission recommends that "disruption be met by the full efforts of the campus to end it and, where necessary, by the general law, while guarding against excessive force by law enforcement personnel."

#8 (14)

2.1

## RELATIONS BETWEEN CAMPUS AND LAW ENFORCEMENT AGENCIES

The Carnegie Commission endorses the recommendations of the Scranton Commission in their chapter "The Law Enforcement Response," and they also recommend that "whereas a campus should initially respond internally and peacefully to nonviolent coercive interference, as noted above, it should have immediate recourse to the assistance of outside law enforcement authorities in situations of potential violence, violence, and terrorism unless its own security force is fully competent to handle the situation."

#8 (82-83)

2.1

GUIDELINES AND PROCEDURES FOR RAPPORT WITH LAW ENFORCEMENT AGENT

The Commission recommends that "Representatives of the administration, the faculty, and the students should participate in establishing guidelines and procedures for relations between a campus and law enforcement authorities. These guidelines should be made public."

CAMPUS NOT A SANCTUARY FROM LAW

The Carnegie Commission recommends that "the view that a campus is a sanctuary from the processes of the law and law enforcement be totally rejected."

#8 (81)

SELF-INITIATION OF REFORM

cf. 4.0 NECESSITY FOR SELF-INITIATION OF REFORMS - #13 (65) for recommendation that institutions initiate reforms themselves rather than wait for external forces to impose regulations - C. # 899.

## NECESSARY REFORM TO DISCOURAGE DISRUPTION

The Carnegie Commission recommends as essential to campus reform the following three sets of actions:

1. "Development of a bill of rights and responsibilities for all members of institutions
2. Development of consultation processes and contingency planning for emergency situations on campuses
3. Development of fair, equitable, and effective procedures to handle violations of campus rules."

#3 (26)



SPECIAL CAMPUS GROUPS WARRANT ATTENTION IN GOVERNANCE PROCESS

The Carnegie Commission issues a caveat to include special minority groups and "marginals" (e.g., teaching associates, part-time lecturers, research assistants, etc.) in the process of governance to avoid complaints and difficulties.

#16 (15-16)

GRIEVANCE PROCEDURES

The Carnegie Commission recommends that "regular procedures and channels for hearing grievances and suggestions directed to a campus be established and be well publicized; that decisions be based on wide consultation with those segments of the campus affected by them; and that decisions and the rationale behind them be made widely known."

#8 (64)

USE OF PROFESSIONAL STAFF TO HANDLE GRIEVANCES

The Carnegie Commission recommends that "careful consideration be given to use of (a) ombudsmen, (b) hearing officers, and (c) campus attorneys."

#8 (98)

INSTITUTIONAL INVOLVEMENT IN COLLECTIVE BARGAINING

"...institutions of higher education involved in collective bargaining will be well advised to employ experienced negotiators."

#16 (50)

CAMPUS RULES FOR ASSEMBLIES

The Commission recommends that "campus rules be formulated which regulate the time, place, and manner of peaceful assemblies."

#8 (65)

APPROPRIATENESS OF POLITICAL ACTION ON CAMPUS

The Carnegie Commission notes that "The appropriateness of political action on a campus, by whomever, but particularly by the institution and its component parts, has not been sufficiently defined."

#8 (34)

URBAN AFFAIRS ADVISORY COUNCIL

The Carnegie Commission recommends that "an urban affairs advisory council including faculty, administration, and student representatives be appointed to consult with the vice-president or vice-chancellor of urban affairs."

#14 (93)

REPRESENTATION ON BUDGET PREPARATION

"The commission recommends that institutions of higher education consider the establishment of committees including faculty, students, and administrators to serve in an advisory capacity in relation to the preparation of the budget when severe cuts must be made. Where it is not considered feasible or desirable to establish such committees, the more traditional practice of holding hearings on major budgetary decisions can provide faculty and students with opportunities to express their views."

#12 (105)



MULTICAMPUS SYSTEM - STRONG CENTRALIZATION OF AUTHORITY UNDESIRABLE

The Carnegie Commission observes that "Strong centralization of authority in multicampus systems or on large campuses can delay decisions and make them less responsive to specific problems." The Commission reinforces reasonable decentralization to the campus level suggested by Eugene C. Lee and Frank M. Bowen in THE MULTICAMPUS UNIVERSITY: A STUDY OF ACADEMIC GOVERNANCE, 1971.

#16 (15)

ADMINISTRATIVE DIFFICULTIES IN LARGE INSTITUTIONS

cf. 3.24 DIFFICULTIES OF VERY LARGE INSTITUTIONS - #9 (81) for mention  
of governance problems confronting too large institutions -  
C. # 712.

INTERNAL GOVERNANCE

cf. 2.4 all headings for information relative to management policies of internal governance problems - C. # 318 - 325.

PROGRESSIVE LEADERSHIP

The Carnegie Commission recommends "A renaissance of progressive leadership directed toward constructive change."

#22 (92)

ADMINISTRATIVE LEADERSHIP - LOSS OF CONFIDENCE

The Carnegie Commission observes that "A lack of confidence now exists in what is being done, in conceptions of what should be done, in the processes for making changes. This lack of confidence weakens administrative leadership on campus."

#22(6)

2.11

ADMINISTRATION - NEED FOR INFORMATION

The Carnegie Commission recommends that "the administration keep the campus and its trustees informed of the decisions it makes and the rationale behind them."

#8 (68)

ADMINISTRATIVE RESPONSE TO DISRUPTIVE INTERFERENCE

The Carnegie Commission supports the successive options enumerated by the Scranton Commission for preventing or ending disruptive interference. These suggestions include:

- "1. Negotiation
2. Wait out a nonviolent incident to see if it dissipates on its own
3. The use of injunctions, particularly in static situations like building occupations
4. Disciplinary and judicial procedures
5. Closing the campus in the face of continued violence or unrelenting and potentially dangerous nonviolent disruption."

#8 (68)

# PRESIDENTS

The Carnegie Commission recommends "The appointment of presidents prepared to give affirmative leadership, but such leadership, both as matter of principle and of necessity, must be based upon persuasion, not dictation."

#22 (57)



PRESIDENT - REVIEW AND REASSESSMENT OF PERFORMANCE

"Boards may wish to consider the establishment of stated review periods for presidents so that withdrawal by the president or reaffirmation of the president may be managed in a more effective manner than is often now the actual situation. Faculty members and students should be associated in an advisory capacity with the process of review as they are in the initial appointment."

#16 (38)

**"Boards should seek active presidents and give them the authority and the staff they need to provide leadership in a period of change and conflict."**

**#16 (38)**

President's role in effective use of resources

"The president (should) provide the data the Board needs and the review of policies and procedures; cooperate in starting and using consortia; accept basic responsibility for effective use of resources and generally serve as the leader of the faculty and the trustees in assuring the effective use of resources."

#12 (26)

PRESIDENTIAL STAFF

cf. 3.21 PRESIDENT - STAFF - #12 (132) for recommendation regarding the need for a capable staff for the President - C. # 557.

PRESIDENTIAL AUTHORITY IN EMERGENCIES

The Carnegie Commission recommends that "Presidents be given the authority to deal with emergency situations, and that they seek advice from pre-existing consultative groups drawn from the campus community."

#8 (67)

PRESIDENTIAL POWER IN CAMPUS CLOSURES

cf. 2.4 CAMPUS CLOSURES - #8 (89) - C. #325.

### ADDITION OF VICE-PRESIDENT FOR URBAN AFFAIRS

## 2.11

Of. 3.21 ADMINISTRATIVE REFLECTION OF URBAN-IMPACT - #14 (93)  
C. #568.

ADMISSIONS OFFICERS - CHARACTERISTICS AND INSTITUTIONAL STATUS

Cf. 3.21 COLLEGE ADMISSIONS OFFICERS - #19 (49) - C. #558.



2.11

CONTINUING EDUCATION - ADMINISTRATIVE OFFICER

The Carnegie Commission recommends that "Large campuses should have an administrative officer specifically concerned with ensuring that qualified adults are given opportunities to pursue undergraduate or graduate study on a full-time or part-time basis."

#20 (158)

# MIDDLE MANAGERS - DEVELOPMENT AND TRAINING

"The Commission recommends that increased emphasis should be placed on the development and training of a staff of middle managers who could assume many of the day-to-day functions of department chairmen, deans, and top administrators, thereby (1) reducing the amount of released faculty time required for administration; (2) providing more efficient and consistent administrative policies and practices; and (3) providing experienced and informed professional assistance to faculty members assuming new administrative responsibilities."

#12 (132)

# ADMINISTRATORS

Cf. 3.21 All Headings - for information on administrators as a human resource as well as part of the internal governance structure  
C. # 556 - # 568.

# FACULTY AUTHORITY

The Carnegie Commission considers of "high level of priority" their recommendation that "Faculties should be granted, where they do not already have it, the general level of authority as recommended by the American Association of University Professors."

#16 (41)

FACULTY RESPONSIBILITIES

The Carnegie Commission notes that "Faculty responsibilities- perhaps particularly the greater responsibilities of faculty members with tenure, since they have greater security, authority and status- have been less clearly set forth than faculty rights."

#8 (34)

FACULTY INFLUENCE OVER ACADEMIC MATTERS.

The Carnegie Commission recommends "The delegation of basic influence over academic matters to faculties."

#22 (58)

AMERICAN ASSOCIATION OF UNIVERSITY PROFESSORS -

POSITION ON FACULTY INVOLVEMENT IN GOVERNANCE

cf. #16 (201-236) - Appendix D - for position statements  
issued by the American Association of University  
Professors regarding faculty involvement in institutional  
governance

GOVERNANCE - PARTICIPATION BY PART-TIME FACULTY

"Faculty members holding part-time appointments for family reasons should not be barred from service on departmental or campus committees and should, if holding an appropriate faculty rank, be eligible for membership in the academic senate."

#20 (149)



**American Association of University Professors: Statement on Faculty Participation in Strikes**

The American Association of University Professors is deeply committed to the proposition that faculty members in higher education are officers of their colleges and universities. They are not merely employees. They have direct professional obligations to their students, their colleagues, and their disciplines. Because of their professional competence, they have primary responsibility for central educational decisions; they share in the selection of presidents and deans; and their judgment should come first in the determination of membership in the faculty. Where these principles (which are more fully stated in the 1966 *Statement on Government of Colleges and Universities*) are not accepted in their entirety, the Association will continue to press for their realization. We believe that these principles of shared authority and responsibility render the strike inappropriate as a mechanism for the resolution of most conflicts within higher education.

But it does not follow from these considerations of self-restraint that professors should be under any legal disability to withhold their services, except when such restrictions are imposed equally on other citizens. Furthermore, situations may arise affecting a college or university which so flagrantly violate academic freedom (of students as well as of faculty) or the principles of academic government, and which are so resistant to rational methods of discussion, persuasion, and conciliation, that faculty members may feel impelled to express their condemnation by withholding their services, either individually or in concert with others. It should be assumed that faculty members will exercise their right to strike only if they believe that another component of the institution (or a controlling agency of government, such as a legislature or governor) is inflexibly bent on a course which undermines an essential element of the educational process.

Participation in a strike does not by itself constitute grounds for dismissal or for other sanctions against faculty members. Moreover, if dismissal of a faculty member is proposed on this, as on any other ground encompassed by the 1940 *Statement of Principles on Academic Freedom and Tenure*, the proceedings must satisfy the requirements of the 1958 *Statement on Procedural Standards in Faculty Dismissal Proceedings*. The Association will continue to protect the interests of members of the profession who are singled out for punishment on grounds which are inadequate or unacceptable, or who are not offered all the protection demanded by the requisites of due process.

SOURCE: *AAP Bulletin*, vol. 54, pp. 155-159, summer 1968.

FACULTY PARTICIPATION IN STRIKES

# FACULTY ATTITUDES TOWARD AND PARTICIPATION IN PROTEST ACTIVITY<sup>2.1</sup>

**Table 12: Faculty Attitudes toward and Participation in Protest Activity,  
by Carnegie Commission Typology of Institutions\***

	All insti- tutions	Doctoral-granting institutions		
		Heavy emphasis on research	Moderate emphasis on research	Moderate emphasis on doctoral programs
<i>Attitude toward most recent campus protest incident†</i>				
Approve of aims and methods	28%	18%	26%	21%
Approve of aims, not methods	25	30	24	25
Disapprove of aims	27	35	30	28
Uncertain	19	16	17	23
Indifferent	1	1	3	3
Total percent‡	100%	100%	100%	100%

\* For a description of the Carnegie Commission typology of institutions, see Appendix C.

† These data are not comparable to the undergraduate data on participation in demonstrations. The undergraduate data report participation in *any* demonstration since entering college; faculty data report participation in the *most recent* demonstration.

‡ Percentages include only those institutions which had a protest incident.

Table 13: Faculty Attitudes about Student Political Activism, by Carnegie Commission Typology of Institutions\* (Percent Agreeing Strongly or Agreeing with Reservations)

	Doctoral-granting institutions			
	Heavy emphasis on research	Moderate emphasis on research	Moderate emphasis on doctoral programs	
<i>All institutions</i>				
<i>Campus disruptions by militant students are a threat to academic freedom.</i>	85%	83%	84%	82%
<i>Student demonstrations have no place on the college campus.</i>	33	20	27	29
<i>Most campus demonstrations are created by far left groups trying to cause trouble.</i>	53	46	52	49
<i>Political activities by students have no place on a college campus.</i>	17	10	15	16
<i>Students who disrupt the functioning of a college should be expelled or suspended.</i>	82	75	84	80

\* For a description of the Carnegie Commission typology of institutions, see Appendix C.

SOURCE: Carnegie Commission survey of faculty in 1969-70.

NEW FORM OF GOVERNANCE THROUGH COLLECTIVE BARGAINING

Cf. 3.22 COLLECTIVE BARGAINING - #22 (54) - C. #667.

COLLECTIVE BARGAINING

"State laws, where they do not now permit it, should provide faculty members in public institutions the opportunity of obtaining collective bargaining rights. One alternative under such laws should be choice of no bargaining unit."

#16 (43)

COLLECTIVE BARGAINING - IMPLICATIONS FOR FACULTY

"Faculties in each institution should undertake the most careful analysis of the implications of collective bargaining and, more broadly, of which of the alternative forms of governance they prefer."

#16 (48)

**"The approach to contract coverage should be one of restraint, with the contract covering economic benefits and with academic affairs left (or put) in the hands of the faculty senate or equivalent council."**

**#16 (49)**

LAWS RELATING TO COLLECTIVE BARGAINING

"A separate federal law and separate state laws should be enacted governing collective bargaining by faculty members in both private and public institutions and should be responsive to the special circumstances that surround their employment. If this is not possible, then separate provisions should be made in more general laws, or leeway should be provided for special administrative interpretations."

#16 (50)



COLLECTIVE BARGAINING - FACULTY OPINION

cf. #16 (42) and (91-96) for tables reflecting opinion survey results for studies made by Commission in 1969. Data reveals that at the time of the surveys little more than half of faculty members favored collective bargaining and little less than half accepted faculty strikes. Sentiment for unionization is strongest among faculty from community colleges and specialized comprehensive colleges (teachers colleges), especially those faculty members who are under 30, non-tenured, and "left" in their political leanings.

COLLECTIVE BARGAINING UNITS - COMPOSITION

"Representation and bargaining units should be composed of faculty members including department chairmen."

#16 (49)

COLLECTIVE BARGAINING - INSTITUTIONAL ROLE

Cf. 2.4 COLLECTIVE BARGAINING - INSTITUTIONAL ROLE IN NEGOTIATIONS - #12  
(89) Card #324.

FACULTY MEMBERS

Cf. 3.22 ALL HEADINGS - for information relative to faculty members as human resources as well as part of governance structure

2.12/2.1

FACULTY AND STUDENT INVOLVEMENT IN GOVERNANCE

"Faculty members and students should have a full measure of academic freedom, substantially as defined by the American Association of University Professors."

#16 (16)

cf. 2.2 GOVERNING BOARD - FACULTY/STUDENT ASSOCIATION - #16 (35) - C. #249.

2.12/2.13

GOVERNING BOARD COMMITTEES - FACULTY/STUDENT MEMBERSHIP

cf. 2.2 GOVERNING BOARD COMMITTEES - FACULTY/STUDENT MEMBERSHIP - #16  
(35) - C. #250.

2.12/2.13

FACULTY AND STUDENT ATTITUDE TOWARD DISRUPTION AND VIOLENCE

The Carnegie Commission concludes that "students and faculty members are divided, as is American society, about means and ends; but they stand predominantly, as does American society, against disruption and violence and for ordered change."

#8 (20)



2.12/2.13

FACULTY/STUDENT REVIEW OF PRESIDENT'S PERFORMANCE

cf. 2.11 PRESIDENT-REVIEW AND REASSESSMENT OF PERFORMANCE - #16 (38)-C.  
 #194 - for Commission recommendation of faculty/student advisement  
 in process of presidential review

The Commission recommends "greater participation of students in the decision-making process."

#22 (92)

STUDENT PARTICIPATION IN GOVERNANCE

Believing that participation in governance is educationally beneficial, the Carnegie Commission "is generally sympathetic to greater student participation in those areas of governance where they have substantial interest and adequate competence, and where they will assume responsibility."

#16 (68)

STUDENT INVOLVEMENT IN GOVERNANCE - CONDUCT CODES

"Conduct codes should be prepared with student involvement in the process of their preparation, ombudsmen or their equivalent should be appointed, and formal grievance machinery should be available and should end in impartial judicial tribunals."

cf. 2.4 GRIEVANCE PROCEDURE - OMBUDSMAN - #16 (16) for specific details on function of Ombudsman - Card #320.

#16 (71)

STUDENT PARTICIPATION IN GOVERNANCE

"Governance arrangements should provide: (1) adequate academic options from among which students may choose, and (2) the right to be heard on important campus issues."

#16 (71)

STUDENT PARTICIPATION IN GOVERNANCE - COMMITTEE MEMBERSHIP

"Students should serve on joint faculty-student (or trustee-student or administrative-student) committees with the right to vote or should have their own parallel student committees with the right to meet with faculty, trustee, and administrative committees in areas of special interest and competence such as educational policy and student affairs. Students serving on such committees should be given staff assistance."

#16 (71)

1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1  
39 38 37 36 35 34 33 32 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1

- 232 -

STUDENT INVOLVEMENT IN GOVERNANCE

2.13

The Carnegie Commission recommends "The greater involvement of students in several ways, including service as voting members of selected committees along with faculty members or administrators or trustees, or in parallel committees that meet in consultation with faculty or administrative or trustee committees." The Commission opposes, however, student membership on boards of trustees and faculty senates at their own institutions.

#22 (58)

STUDENT INVOLVEMENT IN GOVERNANCE

CP. #16 (237-249) - APPENDIX E - for the university of  
Cambridge: First Report on Participation by Junior  
Members in the Educational Business of the university



STUDENT ROLE IN EMPLOYING AND PROMOTING FACULTY

Alexander Mood suggests that "students should be given a formal role and a full veto in the processes of employing and promoting faculty members."

#R37 (89)

STUDENT EVALUATION OF FACULTY PERFORMANCE

"Students should be given the opportunity to evaluate the teaching performance of faculty members, and students should be involved in periodic reviews of the performance of departments."

#16 (71)

EVALUATION OF TEACHING PERFORMANCE - STUDENT ROLE

The Carnegie Commission recommends that "students should be associated with the evaluation of teaching performance."

#13 (50)

# STUDENT MEMBERSHIP - CURRICULUM COMMITTEES

The Carnegie Commission recommends that "Students should be added more generally as voting members to curriculum committees in departments, group majors, and professional schools where they are majors, and on committees concerned with broad learning experiences. If they are not added as members they should be given some other forum for the expression of their opinions."

#13 (47)

STUDENTS AND REFORM

Cf. C. # 149 and # 150 for information on student-related reforms

PROFILE OF STUDENTS

Cf. 3.24 PROFILE OF UNDERGRADUATES IN ALL INSTITUTIONS - #8  
(149) - C. # 670.

# INSTITUTIONAL SIZE AND INCIDENCE OF VIOLENT AND NONVIOLENT DISRUPTIVE PROTEST BY TYPE OF INSTITUTION

**Table 6: Institutional Size and Incidence of Violent and Nonviolent Disruptive Protest\* by Type of Institution (Weighted Population Estimates)**

Enrollment	N	Universities	
		Percent with violent protest	Percent with nonviolent disruptive protest
Under 500	54	0	0
500-999			
1,000-5,000	29	14	69
Over 5,000	222	22	34†
TOTAL	305	17	31

\*Included in the nonviolent disruptive category are strikes and boycotts of classes, which would not necessarily be considered "disruptive" according to the definitions in this Carnegie Commission report.

† The 34% figure is correct here. The 42% figure reported in the *Educational Record* is a misprint.

SOURCE: Alan E. Bayer and Alexander W. Astin, "Violence and Disruption on the U.S. Campus, 1968-69," *Educational Record* vol. 50, no. 4, fall 1969.

## AMERICAN CIVIL LIBERTIES UNION: DISTINCTION BETWEEN DISSENT AND DISRUPTION

### **American Civil Liberties Union: Distinction between Dissent and Disruption**

Picketing, demonstrations, sit-ins, or student strikes, provided they are conducted in an orderly and non-obstructive manner, are a legitimate mode of expression, whether politically motivated or directed against the college administration, and should not be prohibited. Demonstrators, however, have no right to deprive others of the opportunity to speak or be heard; take hostages; physically obstruct the movement of others; or otherwise disrupt the educational or institutional processes in a way that interferes with the safety or freedom of others.

Students should be free, and no special permission be required, to distribute pamphlets or collect names for petitions concerned with campus or off-campus issues.

**SOURCE:** *Academic Freedom and Civil Liberties of Students in Colleges and Universities*, American Civil Liberties Union, April 1970.



# INSTITUTIONAL SELECTIVITY AND INCIDENCE OF VIOLENT AND NONVIOLENT DISRUPTIVE PROTEST BY TYPE OF INSTITUTION

**Table 5: Institutional Selectivity and Incidence of Violent and Nonviolent Disruptive Protest by Type of Institution (Weighted Population Estimates)**

Selectivity level*	Universities		
	N	Percent with violent protest	Percent with nonviolent disruptive protest†
Low	72	0	0
Low intermediate	51	12	6
High intermediate	124	19	53
High	58	40	45
TOTAL	305	17	31

\*Selectivity based on admissions test scores of entering students at each college.

† Included in the nonviolent disruptive category are strikes and boycotts of classes, which would not necessarily be considered "disruptive" according to the definitions in this Carnegie Commission report.

SOURCE: Alan E. Bayer and Alexander W. Astin, "Violence and Disruption on the U.S. Campus, 1968-69," *Educational Record*, vol. 50, no. 4, fall 1969.

BOARD OF TRUSTEES

The Carnegie Commission recommends "The preservation (or creation of strong and independent boards of trustees with basic responsibility for the welfare of institutions of higher education."

#22 (57)

GOVERNING BOARDS - MEMBERSHIP

"Elected officials with the power of budgetary review should not serve as members of governing boards of public institutions over which they exercise such review because of the conflict of interest and the resulting double access to control, and because of the partisan nature of their positions."

#16 (34-35)

GOVERNING BOARDS - WOMEN MEMBERS

The Carnegie Commission favors, at the institutional level, "More women on governing boards."

#20 (5)

MEMBERS OF THE INSTITUTIONAL BOARD

The Carnegie Commission recommends that "Elected officials (unless elected for that specific purpose) not serve as members of governing boards of public institutions or coordinating agencies."

The Commission further recommends that "A system be developed to assure adequate screening and consultation prior to appointments to governing boards, regardless of who has the final authority to appoint."

#5 (107)

GOVERNING BOARDS - MEMBERS

"Members of governing boards of public institutions (where the governor makes the appointments) should be subject to appropriate mechanisms for nominating and screening individuals before appointment by the governor to assure consideration of properly qualified individuals, or to subsequent legislative confirmation to reduce the likelihood of purely politically partisan appointments, or to both."

#16 (35)

GOVERNING BOARD MEMBERSHIP - COMPOSITION

"Board membership should reflect the different age, sex, and racial groups that are involved in the concerns of the institution. Faculty members from other institutions and young alumni should be considered for board memberships."

#16 (35)

GOVERNING BOARD - FACULTY/STUDENT ASSOCIATION WITH

"Faculty members, students, and alumni should be associated with the process of nominating at least some board members in private and public institutions, but faculty members and students should not serve on the boards of institutions where they are enrolled or employed."

#16 (35)



## GOVERNING BOARD COMMITTEES - FACULTY/STUDENT MEMBERSHIP

**"Boards should consider faculty and student membership on appropriate board committees, or the establishment of parallel committees with arrangements for joint consultation."**

**#16 (35)**

GOVERNING BOARD - DUTIES

"It is more important for the board to provide for effective governance than, as it once did, for it to govern..."

cf. #12 (35-36) for list of areas of responsibility for governing boards

#16 (36)

BOARD - REVIEW OF GOVERNANCE FUNCTIONS

"Boards periodically should review the arrangements for governance—perhaps every four or five years—to be certain that they fit the current needs of the institution and are appropriate to the various functions being performed."

#16 (35)

BUDGET ALLOCATION SHIFTS BY GOVERNING BOARDS

cf. 3.0 MANAGEMENT OF RESOURCES - PLANNING AND CONTROL OF CAPITAL COSTS  
#12 (120) for recommendation that capital and operating budgets  
be consolidated to facilitate shifts from one allocation to the  
other at the discretion of the board of trustees. Card # 341.

[illegible]

Cf. 2.11 ADMINISTRATION - NEED FOR INFORMATION - #8 (68) - C. #191.

BOARD'S ROLE IN REVIEW OF PRESIDENT'S PERFORMANCE

cf. 2.11 PRESIDENT - REVIEW AND REASSESSMENT OF PERFORMANCE - #16 (38) -  
C. #194 - for Commission recommendation of stated review periods for  
presidents

GREATER PUBLIC INPUT

The Carnegie Commission alerts higher education to "Greater public input, through governors, legislative committees and coordinating councils, into higher education, as external institutions have more to say about how higher education conducts itself."

#22 (46)

EXTERNAL INVOLVEMENT IN MASTER'S PROGRAMS

cf. 4.12, 4.13 IMPLICATIONS OF JOB-MARKET ON MASTER'S PROGRAMS  
#15 (161) for Commission recommendation that Federal,  
state, and other agencies should conduct studies of the  
implications of job-market conditions on master's  
programs. C. #1005.



EXTERNAL INFLUENCE - ACCREDITATION

- Cf. 2.5 NEW SYSTEM OF ACCREDITATION - #21 (75) - C. # 328  
2.5 DUAL SYSTEM OF ACCREDITATION - #21 (7) - C. # 327

**The Carnegie Commission readily admits that "Diversity creates problems for accreditation." They note, however, that they offer no suggested solution.**

**#13 (40)**

EXTERNAL INFLUENCE/ EXTERNAL CONTROL

The Carnegie Commission distinguishes between external influence, which recognizes freedom of action while exerting pressure through funding or by creating a climate of public opinion, and external control, which limits freedom of action by requiring compliance through threat of penalty.

#16 (18-19)

EXTERNAL INFLUENCE - INNOVATIONS

"Innovations in programs and in policies should be encouraged by public authorities by influence and not by control."

#16 (29)

INCREASED TENSION BETWEEN CAMPUS AND SOCIETY

The Carnegie Commission observes the increased tension between campus and society accounted for by "the impacts of the cultural revolution on campus, but also due to increased campus demands for public subsidy, to new doubts about the value of some research, to resented aspects of the evolving government by distant experts trained in higher education, to the growth on campus of the 'adversary culture,' and to other changes that have had a negative effect on public attitudes."

#13 (25)

CITY-CAMPUS RELATIONSHIP

2.31

"Thus the relationship between the 'city and the campus' is not a single relationship between two clearly defined entities but rather a whole series of relationships with the identity of the participants shifting somewhat from one relationship to another, and from time to time."

#14. (17 )

SUPPORT AND RESPONSIBILITY FOR HIGHER EDUCATION

The Commission recommends that "basic support of and responsibility for higher education remain with the states and with private initiative."

#10 (2)

# STATE INFLUENCE ON GOVERNANCE

The Carnegie Commission favors the following state policies regarding institutional governance:

1. "Continuation of state responsibility for higher education, as against the creation of a national system as occurs in so many other countries; and maintenance of the degree of independence that private institutions have historically enjoyed."
2. "The exercise of state responsibility for coordination through broad instruments."
3. "The establishment of clear lines of demarcation between what belongs to the state and what belongs to higher education..."
4. "The distribution of state funds on the basis of general formulas and rewards for performance, rather than on the basis of line-item budgets and specific controls."

#22 (57)



FEDERAL DELEGATION OF RESPONSIBILITY TO STATE

Of. 2.33 FEDERAL RESPONSIBILITY FOR HIGHER EDUCATION - #5 (12)  
C. #306.

## STATE RESPONSIBILITY FOR HIGHER EDUCATION

The Carnegie Commission recommends that "state governments continue to exercise major responsibility, in cooperation with local governments and private institutions, for maintaining, improving, and expanding systems of postsecondary education adequate to meet the needs of the American people."

#5 (16)

## STATE RESPONSIBILITY FOR POSTSECONDARY EDUCATION

"The federal structure and the role of private and locally supported institutions, combined with the particular geographic settings and the social, political, and economic patterns of the different states, lead the Carnegie Commission to believe that the state governments are the units in our society best situated to exercise the major responsibility for postsecondary education.

The Commission warns, however, that "the state need not and should not directly supply all the resources necessary, nor should it exercise complete control over the system of postsecondary education, but it must assure that such a system exists through a multiplicity of public and private resources and institutions of various types."

#5 (16-17)

# STATE POSTSECONDARY EDUCATIONAL PLAN - INITIAL DEVELOPMENT

The Commission recommends that a "state's initial development of a broad postsecondary educational plan be undertaken by a commission appointed for that purpose. . . (and) selected so as to assure participation by both public representatives and leaders of educational constituencies."

#5 (36)

The Commission recommends that "states, in developing both their short- and longer-range plans, give greater attention to institutional diversity, and to building sufficient flexibility into both institutional and system-wide plans to permit adaptation as educational processes and needs change."

Cf. 1.0 NEED FOR DETERMINING UNIQUE PURPOSE - #13 (40) - C. #15 for relative information and additional references on topic

#5 (34)

## CRITERIA of SUCCESS

Criteria by which a state government can evaluate its progress in meeting the goal of a strong and effective system of postsecondary education:

- The system offers universal access to postsecondary education related to the needs and qualifications of each student.
- It assures economic equality of educational opportunity.
- It assures that instruction will be high quality at all levels and for all academic or vocational fields.
- It encourages diversity, avoids moving toward homogeneity, and fosters a broad range of academic, technical, professional, and vocational options.
- It preserves fundamental institutional autonomy and integrity while recognizing the need for appropriate kinds of public accountability.
- It continues, to the extent possible, the present pattern of diversification of funding in order to enhance both the diversity of the system and the autonomy of the individual institutions.
- It helps to preserve a strong segment of private postsecondary education.
- It responds effectively to manpower needs.
- It provides incentives for desirable innovation.
- It supplies adequate state assistance to meet these needs.

#5 (9)

# COORDINATION - DEFINITION

"The term coordination implies the existence of separate units, each with some freedom to control its own operations, and thus the need for a technique or mechanism by which they can act together toward some purpose that cannot be achieved by isolated, individual actions."

#5 (24)

COORDINATION

2.32

"Apart from its budget appropriation functions, perhaps the single most significant power of the state legislature over the state's colleges and universities is in coordination."

#5 ( 22 )



# COORDINATING MECHANISM

The Commission notes that the requisites for the success of a coordinating agency are its ability "to be persuasive and the willingness of the units to subordinate their individual interests to common goals."

#5 (24)

STRONG COORDINATING AGENCIES

2.32

"The stronger types of agencies could achieve greater efficiency in the use of scarce resources, but unduly rigid and detailed budget review approaches could actually inhibit the type of organizational innovation needed for more efficient use of resources."

#5 (27)

1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1  
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# CHARACTERISTICS OF STATE COORDINATING MECHANISMS

2.32

See #5, App. B for the Characteristics of State Coordinating Mechanisms

#5( 122-126 )

COMPOSITION OF STATE COORDINATING BOARD

The Carnegie Commission recommends that "states take steps to attract staff members of the ability, stature, and sensitivity required to carry out the complex tasks of the agencies..."

The Commission further recommends that "states with heavy institutional representation in the composition of their boards take steps to increase the proportion of lay members and to introduce appropriate nominating techniques for appointment of outstanding noninstitutional members, regardless of who has the final appointing authority."

#5 (30)

GOVERNING BOARDS (STATE)

The Commission observes that "governing boards . . . generally have more power than coordinating agencies and thus need not rely heavily on persuasion."

Cf. 2.32 STATE CONTROL - DANGERS - #5 (28-29) for Commission's warning against "Establishing single governing boards..." Card # 279.

#5 (24)

# STATE CONTROL - DANGERS

The Carnegie Commission warns states to avoid:

1. "Investing coordinating agencies with administrative authority, particularly over budget matters, or
2. Establishing single governing boards, except in those states in which a special combination of historical factors and present circumstances make such agencies more feasible than other types of coordinating agencies."

Cf. 2.32 DUTIES OF STATE AGENCY - #5 (29-30) - C. # 281.  
2.32 GOVERNING BOARDS - #5 (24) - C. # 278.

#5 (28-29)

## AUTHORITIES OF COORDINATING AGENCIES

The Commission recommends that "coordinating agencies be granted the following authorities to be exercised within the context of the long-range plans. . .established for the state:

1. "To approve or disapprove new institutions, branches, or centers, and, where appropriate, to take active steps toward the establishment of new institutions"
2. "To approve all new degree programs at the doctoral level, and new master's and baccalaureate programs in general fields not previously offered, and in high-cost fields"
3. "To allocate funds under state-administered federal programs"

#5 (37)

# DUTIES OF STATE AGENCY

The Carnegie Commission recommends that coordinating agencies be assigned the following responsibilities:

1. Involvement in the "budget review process" when budget review is the responsibility of another state agency.
2. Budget Review responsibility ("as opposed to budget control") when no other state agency holds this responsibility.
3. Distribution of funds "to encourage quality improvement, and experimentation and innovation consistent with the state's long-range educational goals."
4. "...program review responsibilities and authority consistent with their educational planning functions."
5. Advising on: "Effective use of resources," "Educational quality," "Access to postsecondary education," and "Appropriate functions for the various types of institutions."
6. Responsibility as "buffer and communicator" between the various elements and publics of postsecondary education.

#5 (29-30)



## PURPOSES - COORDINATING AGENCIES

The Carnegie Commission suggests that state coordinating agencies "are usually established to achieve the following:

- Avoid wasteful duplication in programs and harmful competition for resources
- Work toward greater efficiency in the use of scarce resources
- Aid the orderly growth of all postsecondary facilities within the state, including consideration of locations for new campuses
- Assist in developing state policy on admission of students to higher education
- Collect data needed for policy determination
- Encourage sufficient diversity with the system to satisfy the diverse educational needs of the state
- Serve as a communications agency among the postsecondary education community, the state government, and the public
- Foster excellence in the development of the variety of programs involved in the expanding postsecondary education network."

## INSTITUTIONAL ACCEPTANCE OF STATE AGENCIES

The Carnegie Commission suggests that coordinating agencies seek to "increase acceptance by the institutions through

1. more effective consultation with the entire range of post-secondary institutions
2. experimentation with a program of limited term exchanges of personnel between agency and institutional staffs
3. establishment of joint board staff and institutional staff seminars or workshops focused on state educational concerns"

#5 (31)

STATE INFLUENCE - AVOIDANCE OF CONTROL

"Coordinating agencies at the state level should seek to establish, in cooperation with public and private institutions of higher education, guidelines defining areas of state concern and areas of institutional independence that avoid detailed control."

#16 (29)

# CHANGES in FORM OVER TIME

2.32

## Changes in form of state coordination from 1939-1969

**TABLE 1**  
*Changes in form  
of state  
coordination  
from 1939-1969*

<i>States with:</i>	<i>1939*</i>	<i>1949*</i>	<i>1959</i>	<i>1964</i>	<i>1969</i>
<i>No formal coordination</i>	33	28	17	11	3
<i>Voluntary coordination</i>	0	3	7	4	1
<i>Coordination boards</i>	2	3	10	18	27
<i>Advisory</i>	(1)	(1)	(5)	(11)	(13)
<i>Regulatory</i>	(1)	(2)	(5)	(7)	(14)
<i>Consolidated governing board</i>	15	16	16	17	19

\*Including the territories of Alaska and Hawaii.

SOURCE: Adapted from a study on state coordination by Robert Berdahl to be published soon by the American Council on Education.

#5.(26)

# MINIMUM ELEMENTS OF STATE PLANNING EFFORT

The Carnegie Commission recommends that state planning efforts include attention to the following:

1. "Present and future access to postsecondary education..."
2. "Appropriate functions for the various types of institutions within postsecondary education, including degrees to be granted, research activities, and public service functions."
3. "Orderly growth of postsecondary education—including location of new campuses, development of new schools, and optimum size of institutions."
4. "Articulation among the various elements of postsecondary education and within secondary education."

#5 (34)

STATE PLANS - NECESSITY FOR DIFFERENTIATION OF FUNCTIONS

cf. 4.0 SPECIALIZATION AND DIFFERENTIATION AMONG CAMPUSES - #13 (40)  
Card # 887.

STATE INFLUENCE - ACADEMIC POLICIES

"Academic policies set by state agencies should be of a broad nature and should not interfere with the more specific professional academic judgments about faculty appointments, courses of study, admission of individual students, grades and degrees for individual students, specific research projects, appointment of academic and administrative staff and leadership, and protection of academic freedom."

#16 (29)

STATE REVIEW OF REQUIREMENTS FOR GRADUATION FROM HIGH SCHOOL <sup>2.32</sup>

Cf. 4.11 ACADEMIC CONTINUITY - #19 (69-70) - C. #966.



STATE COORDINATING BODIES - REVIEW OF DEGREE PROGRAMS

"(State) Coordinating bodies may also need to conduct such review (of existing degree programs) if the institutions fail in their responsibilities."

cf. 4.3 - MANAGEMENT POLICIES - DEGREE PROGRAMS - #12 (104) - C. #1058.

#12 (104)

2.32

STATE INFLUENCE ON TEACHER EDUCATION

Cf. 4.11/ STATE PLANNING OF TEACHER EDUCATION - #15 (79) - C. # 979.  
4.12/4.13

# STATE INFLUENCE ON GRADUATE EDUCATION

The Carnegie Commission suggests that "there should be particular emphasis on efforts by state coordinating councils and similar bodies to prevent the establishment of new doctoral programs and to require or recommend (depending on their powers) the discontinuation of degree programs that are very costly, or of low quality, or both."

#15 (159)

STATE LAWS GOVERNING COLLECTIVE BARGAINING

cf. 2.12 LAWS RELATING TO COLLECTIVE BARGAINING - #16 (50) - c. #217.

STATE GRANTS

cf. 3.12 STATE GRANTS - #16 (29) for details relating to state influence through funding- C. #421.

2.32

STATE INFLUENCE ON ECONOMY-PRODUCING PROCEDURES

"The Commission recommends that state coordinating councils and boards seek to encourage such projects (pilot projects designed to demonstrate that changes in procedures will yield economies)."

#12 (110)

STATE INFLUENCE ON GOVERNANCE THROUGH FINANCING

cf. 3.12 STATE FINANCIAL SUPPORT - #21 (70) - C. #415.

BUDGET REVIEW

2.32

"The (Carnegie) Commission believes that budget review whether performed by the finance office or a coordinating agency, should not be used as an indirect technique for controlling educational programs."

#5(28)



STATE OBLIGATION TO QUALIFIED STUDENTS

The Carnegie Commission recommends that the state system assume the responsibility for providing places in institutions for all qualified students, thus the state would become responsible for assuring students the "maximum freedom of choice in choosing the institution they wish to attend."

#10 (3)

LIMITATION ON STATE CONTROL

The Commission recommends that "Public and private institutions seek to establish guidelines clearly defining the limitations on state concern and state regulation or control."

#5 (107)

# INFLUENCE OF GOVERNOR OVER STATE PUBLIC HIGHER EDUCATION

Noting that "the potential influence of a governor over public higher education in his state is perhaps greater than any other single force affecting the state's public colleges and universities," the Commission recommends:

1. "That governors not serve as chairman or voting members of state coordinating agencies or governing boards of colleges and universities; and
2. That appointments by the governor to governing boards of state colleges and universities, and to state coordinating and/or planning agencies, be made with the advice and consent of the senate."

#5 (19 - 20)

INFLUENCE of the GOVERNOR and the STATE LEGISLATURE 2.32

"Almost more important than the legal powers he possesses is the governor's ability to influence the political climate concerning higher education in the state. His willingness to make it a political issue and his treatment of that issue can have more serious consequences than any of his appointment powers. This influence is also held by the members of the state legislature."

#5. (20)

GOVERNOR'S ROLE IN CAMPUS CLOSURES

cf. 2.4 CAMPUS CLOSURES - 48 (89) - c. #325.

IMPORTANCE OF STATE LEGISLATORS

The Carnegie Commission reiterates the definition of state legislators as "strategic decision makers in politics affecting higher education" found in the Commission study State Officials and Higher Education by Heinz Eulau and Harold Quinley (McGraw-Hill Book Company, New York, 1970).

#5 (21)

ELECTED OFFICIALS AS MEMBERS OF GOVERNING BOARDS

- cf. 2.2 GOVERNING BOARDS - MEMBERSHIP - #16 (34-35) for warning by  
Commission against conflict of interest - C. # 244.
- 2.2 GOVERNING BOARDS - MEMBERS - #16 (35) for warning against  
partisan appointments - C. #247.

2.32/2.33

STATE AND FEDERAL SYSTEM OF ACCREDITATION

cf. 2.5 NEW SYSTEM OF ACCREDITATION - #21 (75) - C. #328.



FEDERAL RESPONSIBILITY FOR HIGHER EDUCATION

The Carnegie Commission notes that "The federal government has restricted its higher education responsibility to satisfaction of special national needs such as scientific research or increasing equal opportunity, and has left to the states the major responsibility for the totality of their educational programs."

#5 (12)

# FEDERAL RESPONSIBILITY FOR EDUCATION - CABINET-LEVEL CONCERN

Although the Commission expresses its hesitancy to propose centralizing authority, it recommends that "if the nation's educational policy is to be made and carried out effectively, then it seems necessary to place federal responsibility for education in a cabinet-level officer." The Commission goes on to suggest that a Secretary of Education be appointed to head a Department of Education within the present Department of Health, Education, and Welfare.

#1A (29)

OPPOSITION TO A SINGLE NATIONAL SYSTEM OF HIGHER EDUCATION

The Carnegie Commission is strongly opposed "to the development of a single national system of higher education."

Cf. 313 OPPOSITION TO ACROSS-THE-BOARD GRANTS - #10 (2) - C. #470

2.33

THREAT TO INDEPENDENCE

The Carnegie Commission warns that institutional independence "will be threatened if higher education is subjected to further influence from the federal government."

#10 (101)

2.33

AUTONOMY WITH FEDERAL AID

The Carnegie Commission insists that "The autonomy of institutions should be preserved." Therefore, the Commission opposes "any formula which would strongly influence academic policy in any single direction in an effort to obtain federal funds-for example, in encouraging the granting of degrees without regard for quality."

#10 (3)

FEDERAL LAWS GOVERNING COLLECTIVE BARGAINING

cf. 2.12 LAWS RELATING TO COLLECTIVE BARGAINING - #16 (50) - C. #217.

FEDERAL INVOLVEMENT IN CAREER COUNSELING

- cf. 8.3 FEDERAL INVOLVEMENT IN OCCUPATIONAL COUNSELING - #15  
(187)- C. #1374 - for recommendation that Federal government agencies  
should take an active role in supplying occupational information

**Of. 3.1 DISTRIBUTION OF FUNDS TO PRESERVE INDEPENDENCE - #22 (60 C. # 376.**



PRESSURE THROUGH FUND ALLOCATION

cf. 4.2 ALLOCATION OF FUNDS FOR "CAREER" EDUCATION - #21 (19) for observation of public pressure for "career" education through allocation of funds.  
C. # 1042.

1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1  
38 32 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1

- 315 -

2.34

COMMISSION ON INSTITUTIONAL INDEPENDENCE

"The American Council on Education may wish to consider establishing a Commission on Institutional Independence to be concerned with policies affecting independence and the review of cases of alleged undue external influence. Such a Commission should include members drawn from the public at large."

#16 (29)

LABOR MARKET RULES AND POLICIES IN RELATION TO EDUCATIONAL TREND

The Carnegie Commission notes that "there is little evidence as yet of much interest in these (innovative) concepts (encouraging various combinations of educational and work experience) in employer circles. In fact, trends in employer, union, and public labor market regulations and policies in the United States have long been in a direction that runs counter to the easy entrance of young people into employment without a college degree or specific occupational training."

#15 (180)

# SOCIETY'S RESPONSE TO VIOLENCE

The Carnegie Commission recommends that "actions by society in response to coercion and violence be undertaken only with reference to those specific individuals and groups who engage in it. A campus as a whole, or a system as a whole, or higher education as a whole, should not be penalized."

#8 (21)

2.4

MANAGEMENT OF SITUATION INVOLVING SIGNIFICANT VIOLATIONS OF LAW

The Carnegie Commission recommends that "significant actions which could be construed as violations of the general law be handled by the outside courts. A corollary to this is that campus authorities have an obligation to report significant violations of the general law that come to their attention."

#8 (95)

GOVERNMENTAL MANAGEMENT - STATEMENTS OF RIGHTS AND RESPONSIBILITIES

"Statements of rights and responsibilities, particularly in large organizations, can be helpful in clarifying relationships...They are also essential to the effective conduct of formal judicial procedures."

#16 (16)

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35 32 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1  
- 320 - 2.4

GRIEVANCE PROCEDURE - OMBUDSMAN

"Adequate grievance machinery, ending—for particularly difficult cases—in fully impartial tribunals not composed entirely of close colleagues and associates, is essential. The creation of the office of ombudsman has generally proven to be highly successful in the informal handling of grievances."

Cf. Card #229 for information relative to student involvement in grievance procedure.

#16 (16)

# PUNISHMENT FOR VIOLATIONS OF REGULATIONS

The Commission recommends that "members of a campus should be tried or punished only for alleged violations of existing codes or regulations; therefore, these should be regularly reexamined. Such regulations should be consistent with the bill of rights and responsibilities adopted by a campus."

#8 (96)



## PROCEDURE FOR HANDLING VIOLATIONS OF CAMPUS CODES

The Carnegie Commission recommends that each campus develop its own procedures to handle violations of codes and regulations. The Commission suggests that "these procedures should be structured so as to facilitate a reliable determination of the truth or falsity of an effective instrument for the maintenance of order. The nature and extent of these procedures must take into consideration the fact that the campus is primarily an educational institution; its members cannot afford to become bogged down in frequent, complicated, and time-consuming judicial machinery."

#8 (96)

# TECHNIQUES OF HANDLING SERIOUS CASES OF "RIGHTS AND RESPONSIBILITIES"

The Commission recommends that "in serious cases involving rights and responsibilities" of members of the campus community and possible campus penalties beyond those for violation of the external law, campus judicial tribunals be composed partially or wholly of external persons, defined as persons drawn from outside the particular school or college or campus whose members are involved in the dispute."

#8 (100)

# COLLECTIVE BARGAINING - INSTITUTIONAL ROLE IN NEGOTIATIONS

"The Commission recommends that institutions of higher education engaged with faculty unionism employ staff members or consultants who are experienced in collective bargaining negotiations and consider the possibility of agreements that will induce increases in the productivity of faculty members and other academic employees without impairing educational effectiveness."

Cf. Cards #214 - 220, and #667  
for information relative to faculty relationship to collective bargaining

#12 (89)

## CAMPUS CLOSURES

Admitting that campus closures "should be a last resort," the Carnegie Commission recommends that the authority for campus closure rests internally with the president (with the concurrence of the trustees) and externally with the governor of the state (but only after previous consultation with the president and "with provision for immediate appeal to a specified court of law."). The Commission further stipulates that such closings should occur only in situations in which there is clear danger of violence to persons or property.

The Commission recommends that no action on administrative staff and faculty pay and student credit be taken in closures of short duration. "However, if closures are of substantial duration, then pay and credit should be subject to adjustment."

In cases of campus closure the Commission recommends that "Care of hospital patients and of laboratory animals must, of course, continue."

#8 (89)

LIASON BETWEEN CAMPUS AND CITY

The Carnegie Commission recommends the "creation in large urban universities of an administrative position directed toward liaison with the city, and of an advisory council on university-city relationships."

#14 (7)

## DUAL SYSTEM OF ACCREDITATION

2.5

The Carnegie Commission suggests "two systems of accreditation or validation: one by government (validation) to protect consumers against fraud and taxpayers against wrongful use of public money; and the other by academic agencies (academic accreditation), as now, to assist in the evaluation of transcripts in transfers from one institution to another and at the point of entry into graduate school."

#21 (7)

# NEW SYSTEM OF ACCREDITATION

"The current system of accreditation by institutional associations will be supplemented by a second system instituted by state and federal governments for the purpose of validating fiscal stability, legitimacy of advertising claims, and general quality of instruction. Those responsible for administering such validation will be restrained, by all means feasible, from regulation of postsecondary education and will seek to establish minimum rather than optimum standards for the accreditation they are empowered to bestow."

#21 (75)

CONSORTIA

"The Commission recommends the development and strengthening of consortia in higher education."

cf. 3.33 SHARING FACILITIES - #12 (128-129) - C. # 881.

#12 (128)



RESOURCE PRIORITIES FOR HIGHER EDUCATION

The Carnegie Commission recommends that "Assurance of resources and their more effective use" be considered by higher education as a priority for action.

#22 (23)

3.0

USE OF RESOURCES

The Carnegie Commission recommends that there be "More attention at all levels to the most effective use of resources."

722 (92)

USE OF RESOURCES

The Commission recommends the "continued flexibility in the use of resources in order to facilitate such adjustments (to changing student choices of occupational fields)."

Cf. 4.0 - PROGRAM RESPONSE TO CHANGING NEEDS IN OCCUPATIONAL FORCE - #15 (21)  
C. #919.

#15 (21)

Effective use of resources - meaning

"...by more effective use of resources...we mean that an institution should (1) carefully analyze the relations between the use of resources and the accomplishment of goals, (2) seek maximum economies with minimal sacrifices in quality, and (3) encourage rapid and flexible adaptation to changes in needs for educational, research, and public service programs."

#12 (viii)

MORE EFFECTIVE USE OF RESOURCES

The Carnegie Commission recommends that "...higher education should undertake internally the constructive actions necessary to get more effective use of resources and not wait for less constructive—and sometimes destructive—actions to be required because of external initiative."

#12 (152)

USE OF RESOURCES TO ACHIEVE EQUALITY OF OPPORTUNITY

3.0

The Carnegie Commission recommends that, to achieve greater equality of opportunity through higher education, the following policy should be observed: "Special consideration, because of past inequalities, in admissions policies, in search efforts for talent, in remedial assistance, and in financial aids in order to provide a fair chance for each person, but with the expectation that individual academic results will depend on talent and effort."

Cf. 1.0 EQUALITY OF OPPORTUNITY - #22 (40) - C. #28 for information regarding equality of opportunity as a major purpose for higher education.

#22 (40)

# EFFECTIVE USE OF RESOURCES

"The most promising single avenue toward more effective use of resources in higher education is provided by current and proposed changes in degree structures."

cf. 4.4 - list of degree structure changes - C. # 1105.

#12 (49)

PROPER ALLOCATION OF RESOURCES - EFFECT OF STUDENT CHOICES

The Carnegie Commission recognizes the difficult decisions facing institutions who are attempting to correlate resources with demands of students and manpower needs. The Commission affirms that "Although we oppose the creation and assignment of student places in accordance with an overall manpower plan, we recognize that situations exist in which institutions and governmental agencies must plan for the allocation of places and resources on the basis of more than immediate student choices."

#15 (138)



MANAGEMENT OF RESOURCES BY COORDINATING AGENCIES

Cf. 2.32 STRONG COORDINATING AGENCIES - #5 (27) - G. #275.

MANAGEMENT OF RESOURCES

cf. 9.1 ENSURING BUDGETARY FLEXIBILITY - #12 (103) for specific recommendations relating to reducing budget stringency. C. # 1462.

MANAGEMENT OF RESOURCES

The Carnegie Commission recommends that for the 70s "we should devote increased resources to those efforts that lagged behind in the last decade: increasing equality of educational opportunity, education for the health services, and academic reform and innovation."

#1A(1)

MANAGEMENT OF RESOURCES - PLANNING AND CONTROL OF CAPITAL COSTS

"The Commission recommends (1) that long-range plans for capital expansion be continually revised to meet changing circumstances, (2) that adequate allowance be made for meeting increased debt service and maintenance costs on the basis of several alternative and relatively conservative estimates of the behavior of future income, and (3) that capital and operating budgets be consolidated (with the capital budget converted to a rental cost basis), so that shifts can be made from one allocation to the other at the discretion of the board of trustees."

#12 (120)

cf. 2.32 STATE INFLUENCE ON ECONOMY-PRODUCING PROCEDURES - #12 (110) -  
C. #295 - for recommendation that state councils and boards encourage  
projects designed to demonstrate that changes in procedures  
will yield economies.

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35 32 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1

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3.0

MANAGING RESOURCES IN COMPENSATORY EDUCATION

cf. 4.3 MANAGING RESOURCES IN COMPENSATORY EDUCATION - #2 (14) - C. #1069.

TABLE 1 Higher education increases in enrollment in spending, wages per student in noninstitutional research, and as a percentage of the GNP, and in federal research expenditures, 1960-1970 (1960=100)

	1960	1970	1970	1960
1 INCREASES IN ENROLLMENT				
a FTE ENROLLMENTS (THOUSANDS)	3,000	6,5	6,000	6,800*
b AVERAGE ANNUAL RATE OF INCREASE		65		26
c CUMULATIVE PERCENTAGE INCREASE		128.7		29.7
2 AVERAGE ANNUAL RATE OF INCREASE IN TOTAL CURRENT FUND EXPENDITURES PER FTE STUDENT OVER AND ABOVE THE GENERAL RISE IN THE COST OF LIVING				
a HISTORIC RATE OF INCREASE, 1930-1960	25			
b TREND OF 1960s		34		
c PROVIDED EXPERIENCE OF 1970-1975 CONTINUES				06
d AS RECOMMENDED BY THE CARNEGIE COMMISSION				24
3 TOTAL CURRENT FUND EXPENDITURES OF INSTITUTIONS (1970-1971 DOLLARS)	98.4	324.2		
e ACTUAL				
(1) AVERAGE ANNUAL RATE OF INCREASE		112	25	
(2) PERCENT OF GNP	11			77
4 ENROLLMENT PROJECTION IS				33
(1) ESTIMATED TOTAL WITH CONTINUATION OF 1960 TO 1970 TREND IN CURRENT FUND EXPENDITURES PER FTE STUDENT				150.6
(2) AVERAGE ANNUAL RATE OF INCREASE				
(3) PERCENT OF GNP				33
(4) ESTIMATED TOTAL AS RECOMMENDED BY CARNEGIE COMMISSION WITH ACCELERATED PROGRAMS AND OTHER EFFICIENCY GAINS				241.4
(5) AVERAGE ANNUAL RATE OF INCREASE				65
5 ENROLLMENT PROJECTION II				27
(1) ESTIMATED TOTAL WITH CONTINUATION OF 1960 TO 1970 TREND IN CURRENT EXPENDITURES PER FTE STUDENT				248.8
(2) AVERAGE ANNUAL RATE OF INCREASE				66
(3) PERCENT OF GNP				30
(4) ESTIMATED TOTAL AS RECOMMENDED BY CARNEGIE COMMISSION WITH EFFICIENCY GAINS BUT WITHOUT ACCELERATED PROGRAMS				41.8
(5) AVERAGE ANNUAL RATE OF INCREASE				68
(6) PERCENT OF GNP				27
(7) ESTIMATED TOTAL AS RECOMMENDED BY CARNEGIE COMMISSION WITH ACCELERATED PROGRAMS AND OTHER EFFICIENCY GAINS				337.3
(8) AVERAGE ANNUAL RATE OF INCREASE				44
(9) PERCENT OF GNP				24
6 FEDERAL RESEARCH EXPENDITURE THROUGH HIGHER EDUCATION IN MILLIONS (1968 DOLLARS)	9380	51,180		
7 AVERAGE ANNUAL RATE OF INCREASE OVER AND ABOVE THE GENERAL RISE IN THE COST OF LIVING	120			-21
8 AT ACTUAL RATE OF 1960-1972				
9 AS RECOMMENDED BY THE CARNEGIE COMMISSION				42

\*Projections II, Table A, Page A

\*Source: National Science Foundation, The Space Effecting 1968 of Resources

# HIGHER EDUCATION: INCREASES

3.0

CAPITAL INVESTMENTS - IMPACT OF ACCELERATED DEGREE PROGRAMS

"The Commission recommends that all capital investment plans give full advance consideration to the possible impact of accelerated degree programs."

#12 (122)



# COLLEGE COSTS

The Carnegie Commission distinguishes four aspects of college costs:

1. nominal price charged for attending college (basic tuition and fees charged to each student)
2. out-of-pocket cost to the student or his family
3. subsidies
4. forgone income opportunities for the student

#18 (20-21)

# EDUCATIONAL COSTS ASSOCIATED WITH INCREASED ENROLLMENT

	Total educational costs associated with increased enrollment as compared with the preceding year	
	1971-72	1980-81
1. FTE enrollment increases as indicated by projection A	\$ 1.2 billion	\$ 1.0 billion
2. FTE graduate enrollment in- creases as indicated by pro- jection B—all other FTE en- rollment increases by 78,000 less per year than indicated by projection A	\$960.0 million	\$670.0 million
3. FTE graduate enrollment in- creases as indicated by pro- jection C—all other FTE enrollment increases by 78,000 less per year than indicated by projection A	\$880.0 million	\$570.0 million

TUITION POLICY

The Carnegie Commission recommends that institutions reevaluate tuition policy "to gear it more to the actual costs of education by level of the training."

#18 (15)

TUITION POLICY

The Carnegie Commission recommends that "Public institutions - and especially the community colleges - should maintain a relatively low-tuition policy for the first two years of higher education. Such tuition should be sufficiently low that no student, after receipt of whatever federal and state support he or she may be eligible for, is barred from access to some public institution by virtue of inadequate finances."

#18 (108)

# TUITION

Of particular interest to public universities that attract many out-of-state students is the combined effect of limiting the period of time required for legal resident in a state to not more than 30 days, and the establishment of 18 as the legal age of majority. These two developments will make differentially higher tuition for out-of-state students inapplicable in practice. "The results will be especially significant in reducing total income from tuition unless in-state tuition is raised..."

#12 (144-145)

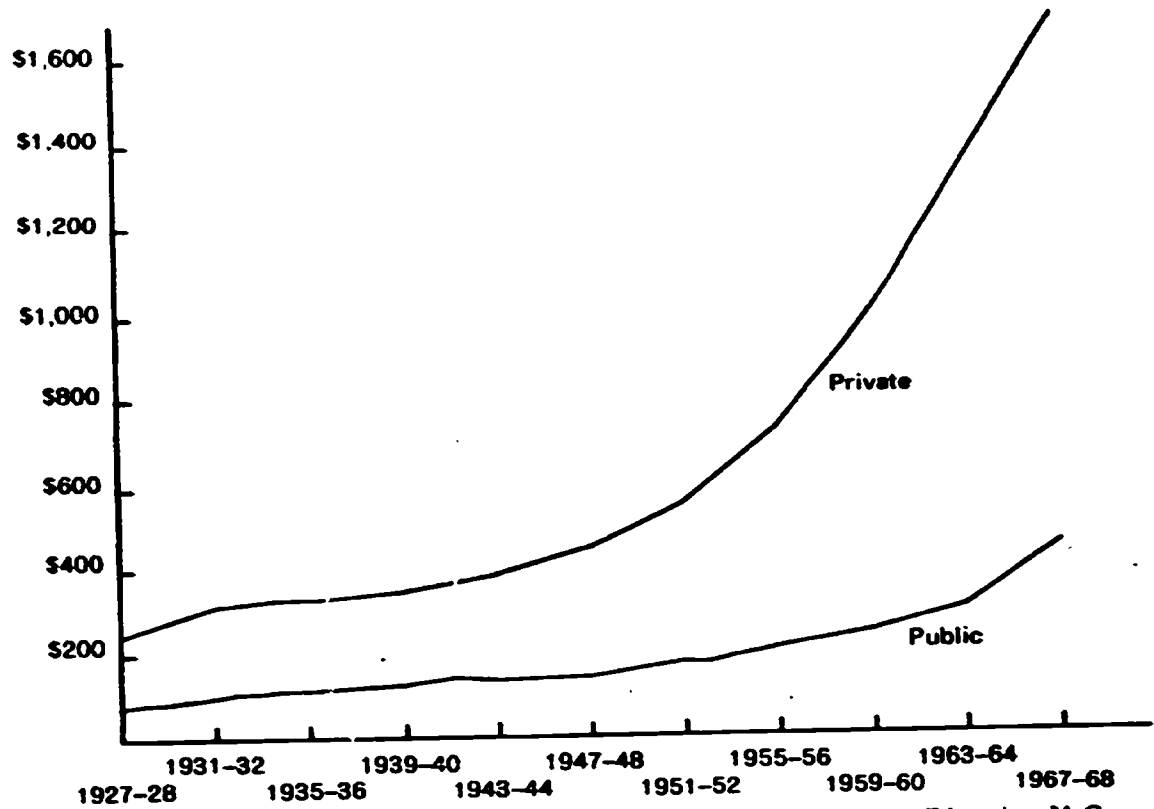
TUITION - LOWER DIVISION

The Commission recommends that "no tuition or very low tuition be charged for the first two years in public institutions including community colleges, state colleges, and universities."

#5 (86)

# TUITION RATES AT PUBLIC INSTITUTIONS (1927-67)

CHART 4 Tuition rates at public and private four-year institutions for selected years (1927-1967)



SOURCE: *The Capitol and the Campus: State Responsibility for Postsecondary Education*, McGraw-Hill Book Company, New York, 1971, p. 77.

3.1

# PROPOSED GRADUAL INCREASE IN TUITION

The Carnegie Commission proposes "...the gradual increase of tuition charges in public institutions over the next decade or so toward one-third of the cost of education, with a corresponding increase in student aid based upon need at both public and private institutions because we believe that in addition to serving the goals of equality of opportunity and universal access, this would help to:

- Broaden the range of institutional choice for students
- Create a better climate for coexistence of public and private institutions
- Complement the new federal philosophy of aid to low-income students
- Promise most effective use from limited state tax revenues "

#18 (117)



POSSIBILITY OF INCREASED TUITION

Without increased federal government support (Cf. 3.13 NECESSITY OF FEDERAL SUPPORT - #9 (42) - Card f461 ), the Commission observes that "students and their parents in both public and private institutions will have to meet an increased proportion of the rising costs of education through greatly increased tuition and fees."

#9 (42)

TUITION INCREASES

"The Carnegie Commission recommends that states and public institutions that find it necessary to increase tuition and other required instructional fees, not increase such fees at a rate higher than the rate at which per capita personal disposable income rises, except that institutions which have kept their fees unusually low for many years may find it necessary to exceed this rate in initial increases."

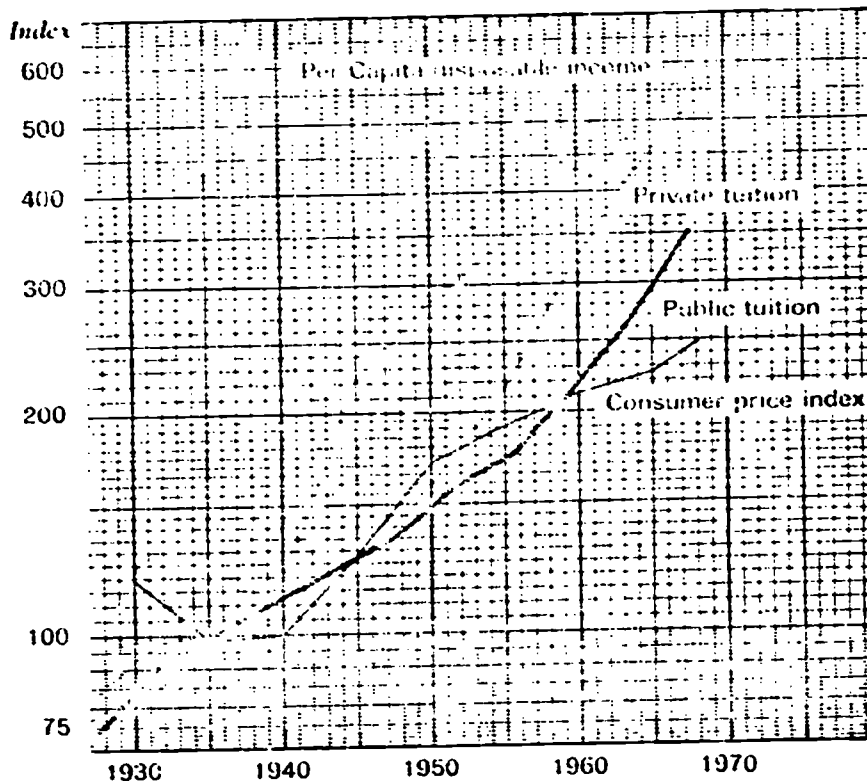
Cf. 3.1 TUITION - LOWER DIVISION - #5 (86)- c. #351.

#5 (85)

# SENSITIVITY of TUITION LEVELS

3.1

**FIGURE 6**  
**Comparison**  
**of increases**  
**in tuition,**  
**income, and**  
**prices**  
**(1931-1940 =**  
**100)**

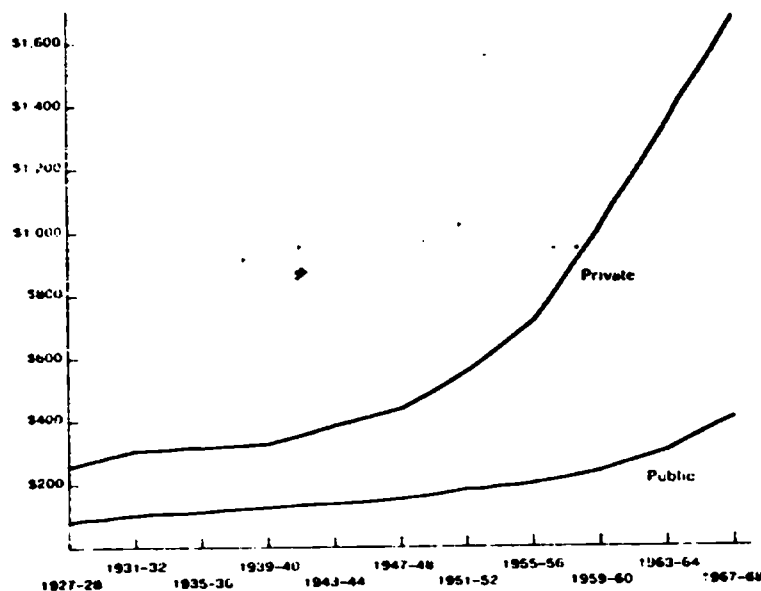


#5 (80)

# TUITION GAP-PRIVATE & PUBLIC INSTITUTIONS

3.1

FIGURE 3 Tuition rates at public and private four-year institutions for selected years (1927-1967)



#5 (77)

## RESTRUCTURING TUITION CHARGES

The Carnegie Commission recommends that "Public colleges and universities should carefully study their educational costs per student and consider restructuring their tuition charges at upper-division and graduate levels to more nearly reflect the real differences in the cost of education per student, eventually reaching a general level equal to about one-third of educational costs."

\* "Studies conducted at the University of Toronto and information obtained from a number of public institutions in the United States indicate that the cost of education per student at the upper-division level is commonly about 50 percent higher (and more at some institutions) than at the lower-division level, and that the cost of education for graduate students is two to three or even more times as high as the average cost for undergraduates." (#18, p. 107)

#18 (109)

RESIDENCY FEES AND FEDERAL FUNDING

Cf. 3.13 COST-OF-EDUCATION SUPPLEMENTS AND RESIDENCY REQUIREMENTS - #5 (50) -- C. # 477.

# Tuition/Educational Costs/Disposable Income

	Annual average rate of increase in				
	Tuition and required fees		Educational costs per FTE student		Per capita personal disposable income (current dollars)
	Public institutions	Private institutions	Public institutions	Private institutions	
1959-60 to 1963-64	3.8%	5.9%	2.2%	6.7%	3.6%
1963-64 to 1967-68	5.0	6.4	5.4	8.6	6.5
1967-68 to 1969-70	6.1	8.1	8.4	8.0	6.7
1959-60 to 1969-70	4.7	6.6	5.0	7.7	5.4

SOURCE: Adapted from U.S. Office of Education data and U.S. Bureau of Economic Analysis. Department of Commerce, data by the Carnegie Commission staff.

#12 (144)

OFFSETTING INCREASED TUITION BY ADEQUATE STUDENT AID

The Carnegie Commission is "opposed to any increase in tuition at public institutions except as such increases are offset by the availability of adequate student aid for lower-income students."

#18 (10)



DIVISION OF ECONOMIC COSTS FOR EDUCATION

The Carnegie Commission concludes that "the overall division of economic costs that has evolved historically between families, taxpayers, and philanthropy should not be greatly altered."

#18 (104)

# ECONOMIC COSTS

The Carnegie Commission maintains that "the proportion of total economic costs now borne privately (about two-thirds) as against the proportion of total economic costs now borne publicly (about one-third) is generally reasonable." The Carnegie Commission reasons, therefore, that "We (members) see no strong reason to change this distribution in any revolutionary fashion either in the direction of full costs privately borne or full costs publicly borne..."

#18 (3)

INSTITUTIONAL COSTS OF HIGHER EDUCATION

The Carnegie Commission suggests that the institutional costs of higher education be held to a 2.7 percent of the GNP. The Commission believes that this suggested percent would not result in any loss of quality "while increasing equality of opportunity."

#18 (14)

# PERCENTAGE OF PER CAPITA INCOME SPENT ON ALL HIGHER ED.- 1967-68

TABLE 12  
Percentage of  
per capita  
income spent  
on all higher  
education  
(1967-68)

State	Percentage	Rank
Wyoming	1.40	1
South Dakota	1.30	2
North Dakota	1.25	3
Arizona	1.22	4
New Mexico	1.19	5
Hawaii	1.13	6
Oregon	1.13	7
Washington	1.12	8
Louisiana	1.10	9
Utah	1.10	10
West Virginia	1.10	11
California	1.09	12
Montana	1.07	13
Colorado	1.06	14
Idaho	1.06	15
Iowa	1.00	16
Wisconsin	0.99	17
Mississippi	0.97	18
Kentucky	0.96	19
Kansas	0.92	20
Arkansas	0.93	21
Michigan	0.88	22
Indiana	0.88	23
Alaska	0.79	24
Alabama	0.77	25
South Carolina	0.77	26
Florida	0.77	27
Texas	0.77	28
Nebraska	0.76	29
Illinois	0.76	30
Nevada	0.75	31
Vermont	0.75	32
North Carolina	0.74	33
Massachusetts	0.74	34
Georgia	0.73	35
Oklahoma	0.73	36
Tennessee	0.70	37

State	Percentage	Rank
New York	0.66	38
Rhode Island	0.67	39
Minnesota	0.67	40
Maryland	0.62	41
Maine	0.60	42
Virginia	0.64	43
Delaware	0.64	44
Pennsylvania	0.62	45
New Hampshire	0.60	46
Connecticut	0.46	47
Ohio	0.43	48
Massachusetts	0.39	49
New Jersey	0.31	50
50 states	0.758	

\* Through state and local taxes

SOURCE: Financial Statistics of Institutions of Higher Education, 1967-68. U.S. Department of Health, Education and Welfare, Washington, D.C., 1970. Secondary Abstract of the United States, 1969. U.S. Department of Commerce, Bureau of the Census, Washington, D.C., 1969.

COST OF INSTRUCTION PER INDIVIDUAL STUDENT

Cf. 3.1 AVERAGE COST AND GRANT PER FTE STUDENT - #10 (68-69) - C. #374.

# DISTRIBUTION OF COSTS - HIGHER EDUCATION

To achieve a more equitable distribution of the costs of and benefits from higher education, the Carnegie Commission suggests the following changes:

A short-term increase in the public share of monetary costs for education to be followed by a long-term increase in the private share until it again reaches about current proportions

A redistribution of the governmental burden from the states and localities toward the federal government

A redistribution of student subsidies from higher- to lower-income groups

A greater amount of support for private colleges and universities

A comparative, although modest and gradual, rise in public as against private tuition

A reevaluation of tuition policy to gear it more to the actual costs of education by level of the training

Greater reliance on better loan programs in the longer-run future and on charges to users

Careful conservation in the use of resources to minimize the rising impact on the GNP

# SOURCES OF REVENUE BY STATE

3.1

**TABLE 9**  
Sources of  
revenue by state  
(estimated  
percent of total  
current  
operating  
revenue for  
colleges and  
universities  
in each state  
from Federal,  
state, and other  
sources - see  
NOTE at end of  
table)

State	Federal*	State	Other
Alabama	16%	29%	55
Alaska	31	32	37
Arizona	18	36	46
Arkansas	14	34	52
California	40	26	34
Colorado	22	27	51
Connecticut	8	31	61
Delaware	6	32	60
Florida	18	34	48
Georgia	15	30	55
Hawaii	38	38	24
Idaho	9	40	51
Illinois	14	37	49
Indiana	14	28	58
Iowa	15	29	56
Kansas	16	31	53
Kentucky	14	36	51
Louisiana	11	63	26
Maine	8	26	67
Maryland	28	21	51
Massachusetts	37	9	54
Michigan	16	38	46
Minnesota	16	23	61
Mississippi	16	19	65
Missouri	17	27	56
Montana	12	38	50
Nebraska	13	26	61
Nevada	11	48	41
New Hampshire	14	13	73
New Jersey	17	24	59
New Mexico	30	32	38
New York	20	5	75
North Carolina	17	28	55
North Dakota	13	35	52
Ohio	13	20	67
Oklahoma	14	26	60
Oregon	22	32	46

State	Federal*	State	Other
Pennsylvania	17%	2%	81
Rhode Island	18	23	59
South Carolina	7	56	37
South Dakota	16	3	81
Tennessee	18	19	63
Texas	12	31	57
Utah	29	29	42
Vermont	12	16	72
Virginia	11	24	65
Washington	21	42	37
West Virginia	14	14	72
Wisconsin	18	30	52
Wyoming	17	38	45

\* Includes funds for federally financed research and development centers administered by universities.

NOTE: The figures in this table are based on data obtained from the Office of Education Higher Education General Information Survey for FY 1966. It should be noted that they are "estimates" only rather than "actual" average cost figures inasmuch as all institutions do not report financial data. Data used for the estimates are from institutions enrolling about 60 percent of all students in higher education.

#10 (42-43)

UNITED STATES GOVERNMENT

# SUGGESTED DIRECTIONS IN FINANCING HIGHER EDUCATION

	Actual 1973	Proposed 1983
<i>Percentage of the GNP expended on institutional costs of higher education</i>	2.5	2.7
<i>Private share of monetary outlays on education, in percentages</i>	37.0	34.0
<i>Governmental and philanthropic share of total monetary outlays on education, in percentages</i>	63.0	66.0
<i>Federal share of total governmental costs for higher education, in percentages</i>	42.5	50.0
<i>State and local share of total governmental costs for higher education, in percentages</i>	57.5	50.0
<i>Percentage of student subsidies that are "replacements" of private funds</i>	66.0	33.0
<i>State support of private institutions, or for students attending them</i>	35 states	50 states
<i>Percentage of educational costs at private institutions met by tuition</i>	60.0	60.0
<i>Percentage of educational costs at public institutions met by tuition</i>	17.0	33.0
<i>Ratio of private to public tuition at the undergraduate level<sup>a</sup></i>	4.0 to 1†	2.5 to 1
<i>Tuition policy as related to cost by level of instruction</i>	Generally equal tuition regardless of level of costs	Tuition geared more to costs by level of instruction
<i>Loan programs</i>	Moderate emphasis	Greater emphasis and substantial improvement in terms

it private institutions now average 15 percent higher than at public institutions. This percentage will rise somewhat as the mix of students in public institutions shifts in the direction of community and comprehensive colleges.

The ratio is 4.9:1 when comparing charges for typical in-state undergraduates in public institutions and comparable charges at private colleges and universities; based on total FTE enrollment in the public and private sectors, however, the ratio is 4.3:1.

#18  
(16)



# FEDERAL, STATE AND LOCAL CONTRIBUTIONS TO EDUCATIONAL FUNDS

## *Federal government*

### *Institutional support*

Research \$ 615 (2,460)\*

Other† 1,330

### *Assistance to students*

Veterans' benefits 1,117

Other† 930

**Total federal \$ 3,992 (5,837)\***

## *State and local government*

*Institutional support* \$ 7,604

*Student assistance* 336

**Total state and local \$ 7,940**

**Combined total, all government \$11,932 (13,777)\***

**Federal share of governmental support 33.5% (42.4%)\***

*Federal contribution, as percentage of total educational funds of institutions* 24.9%

*Federal contribution, as percentage of total institutional funds* (23.7%)\*

SOURCE: Computed from Tables 3, 4, and Appendix A, Table A-14.

\*Figures in parentheses include all federal sponsored research; other figures include one-fourth of research funds as support of education (see Appendix B).

†Some funds which support institutional programs are in turn used to aid students; thus a precise distinction cannot be made between these two categories of support. Of the \$575 million reported by institutions as "Student aid income from public sources," \$475 million has been assumed to come from the federal government and \$100 million from states apart from general state scholarship programs. The remaining federal expenditures under student assistance are principally social security dependents' benefits.

3.1  
COOPERATION OF PUBLIC INSTITUTIONS WITH GOVERNMENT FUNDING

The Carnegie Commission recommends that public institutions:

Carefully study their educational cost with an eye to adjusting their tuition charges to more nearly reflect real differences in cost by level of education, and particularly to make charges for the first two years of college as low as is feasible

Cooperate in a gradual change in pricing philosophy which would permit tuition levels to rise gradually to about one-third of educational costs, assuming that federal, state, and institutional student-aid resources keep pace so that students in need of assistance are not barred from access to postsecondary education

#18 (125)

LITTON 489 - 100000

3.1

FINANCIAL RESOURCES FOR FINANCIAL ASSISTANCE

Cf. 8.4 ALL HEADINGS - for information relative to financial resources available for financial aid - Cards #1400 - 1440.

COST-OF-EDUCATION SUPPLEMENTS

cf. 3.4 INCREASED STUDENT FINANCIAL SUPPORT FOR LOW-INCOME STUDENTS -#9 (49)  
for recommendation of cost-of-education supplements - C. #1419.

# AVERAGE COST AND GRANT PER FTE STUDENT

State	Estimated average cost per FTE (1)	Estimated average grant per FTE (2)	Percent (2) is of (1)
Alabama	\$1,803	98	5
Alaska	5,251	98	2
Arizona	1,380	99	7
Arkansas	1,296	99	8
California	1,983	92	4
Colorado	1,832	95	5
Connecticut	1,737	97	6
Delaware	1,979	92	5
District of Columbia	2,866	99	3
Florida	1,637	98	5
Georgia	2,151	99	5
Hawaii	2,488	90	4
Idaho	1,488	92	6
Illinois	2,130	90	4
Indiana	2,068	97	5
Iowa	2,148	96	4
Kansas	1,982	97	6
Kentucky	1,952	98	5
Louisiana	1,576	98	6
Maine	2,080	92	4
Maryland	2,882	95	4
Massachusetts	2,369	92	4
Michigan	1,825	95	5
Minnesota	1,910	97	5
Mississippi	1,220	98	8
Missouri	2,043	96	5
Montana	1,488	97	7
Nebraska	1,477	97	7
Nevada	3,998	91	2
New Hampshire	2,388	95	4
New Jersey	2,013	94	5
New Mexico	1,875	95	5
New York	2,408	94	4
North Carolina	1,984	92	5
North Dakota	1,441	91	6

State	Estimated average cost per FTE (1)	Estimated average grant per FTE (2)	Percent (2) is of (1)
Ohio	\$1,812	94	5
Oklahoma	1,319	93	7
Oregon	1,294	93	7
Pennsylvania	2,209	95	4
Rhode Island	1,986	95	5
South Carolina	1,943	91	5
South Dakota	1,543	94	6
Tennessee	2,679	97	5
Texas	1,203	95	8
Utah	1,821	95	5
Vermont	2,445	88	4
Virginia	1,778	87	5
Washington	1,742	81	5
West Virginia	1,612	95	6
Wisconsin	1,889	94	5
Wyoming	2,074	94	5

\* Educational and general expenditures less organized research divided by the number of FTE students enrolled.

\* Adjusted on basis of \$100 per FTE degree-credit student.

NOTE: The figures in this table are based on data obtained from the Office of Education Higher Education General Information Survey for FY 1968. It should be noted that these are "estimates" only, rather than "actual" average cost figures, since not all institutions do not report financial data. Data used for the estimates are from institutions enrolling about 94 percent of all students in higher education.

Management of Financial resources

Cf. 4.12/ 4.13 DOCTOR OF ARTS DEGREE - COST - #12 (57) - C. #1023.

DISTRIBUTION OF FUNDS TO PRESERVE INDEPENDENCE

The Carnegie Commission recommends "distribution of public funds by way of individuals where reasonably possible—as in research funds on the merits of individual applications, and student aid and federal support of educational costs via students and not via institutions as corporate bodies."

#22 (60)

EFFECTS OF RISING LEVEL OF PUBLIC INVESTMENT

cf. 1.0 ACCOUNTABILITY - MULTIPURPOSE UNIVERSITY - #21 (23) for effects of rising level of public investment on the accountability of the institutions to state and fulfill their objectives. Card #25.



"Higher education must work on both sides of the equation—more money and more effective use of it. It should both obtain the money it really needs and maximize its output from this money."

#12 (15)

"SELF-RENEWAL" FUND

"The Commission recommends that colleges and universities develop a 'self-renewal' fund of 1 to 3 percent each year taken from existing allocations."

#12. (105)

# RECOGNITION OF IMPORTANCE OF INSTRUCTION TECHNOLOGIES<sup>3.1</sup> BY FUNDING SOURCES

The Carnegie Commission recommends that "major funding sources, including states, the federal government, and foundations, recognize not only the potential of new and developing extramural education systems for expanding learning opportunities, but also the crucial role such systems should play in the ultimate development of instructional technologies. Requests of these systems for funds with which to introduce and use new instructional programs, materials, and media should be given favorable consideration."

#11 (53)

MSB 671B

LITTON APS - MCD91

FINANCING - SOURCES SHARED BY COMMUNITY COLLEGES

In advancing the theor, that the financing of community colleges "should be increased and equitably shared by federal, state, and local governments," the Carnegie Commission alerts other institutions of the future need to share fund sources with other institutions.

#3(2)

# PUBLIC SUBSIDY

The Carnegie Commission suggests that "public subsidy is better concentrated on academic programs and on specialized technical programs of type (a) (specific occupational skill training) than on largely nonacademic programs...which should be supported with public funds only under specially chosen circumstances."

#21 (11)

FUTURE CHANGES IN FUNDING

The Carnegie Commission recommends that changes in the future funding pattern of higher education should be made in such a way as to make the distribution of public support more selective—targeted to help those most in need of financial aid."

#18 (102)

NEED FOR RESOURCES FOR CHILD-CARE CENTERS

cf. 8.5 CHILD-CARE SERVICES- #20 (163) for recommendation that public and private sources should be utilized for providing operating funds for child-care centers - C. #1441.

NEED FOR RESOURCES FOR CHILD-CARE CENTERS

cf. 8.5 CHILD-CARE SERVICES- #20 (163) for recommendation that public and private sources should be utilized for providing operating funds for child-care centers - C. #1441.

# Need for cost data

"The Commission also recommends that all appropriate agencies—the U.S. Office of Education, the Southern Regional Education Board, the Western Interstate Commission on Higher Education, and similar bodies—give high priority to the development of more adequate data on the behavior of costs, income, and output in higher education."

#12 (47)



# DISTRIBUTION OF INSTITUTIONAL GRANTS

Classification	Percentage of enrollment*	Percentage of expenditures	Formulas					
			(1)	(2)	(3)	(4)	(5)	(6)
<b>Public</b>								
Research and doctoral universities I	9.6	16.2	6.0%	8.3%	8.9%	9.5%	5.2%	14.2%
Research and doctoral universities II	2.8	6.2	6.3	6.5	6.7	7.0	4.0	7.3
Doctoral granting universities I	3.5	4.2	2.9	3.1	3.2	3.3	2.0	2.5
Doctoral granting universities II	3.3	2.8	3.3	3.7	3.5	3.3	2.2	2.2
Comprehensive universities and colleges I	20.5	13.6	23.2	20.8	20.1	19.5	16.7	16.0
Comprehensive universities and colleges II	5.2	3.5	7.2	6.2	5.8	5.5	6.0	5.8
Liberal arts colleges II	0.4	0.4	0.5	0.3	0.4	0.4	0.7	1.1
Specialized colleges	1.3	4.5	0.8	0.3	0.6	0.9	0.9	0.6
Two-year colleges	22.5	12.3	10.5	7.3	10.4	13.6	22.2	7.2
Total public	68.1	68.7	62.2%	56.5%	58.7	63.0	58.9%	56.7%
<b>Private</b>								
Research and doctoral universities I	7.2	10.8	1.7%	2.4%	2.8	3.1	1.2%	11.7%
Research and doctoral universities II	1.9	3.7	1.3	1.8	1.9	2.1	1.0	4.1
Doctoral granting universities I	1.6	2.0	1.1	1.5	1.5	1.6	0.8	1.1
Doctoral granting universities II	1.3	1.5	1.1	1.3	1.3	1.3	0.8	0.8
Comprehensive universities and colleges I	5.2	4.2	4.8	5.8	5.5	5.2	4.7	5.1
Comprehensive universities and colleges II	1.5	1.2	2.3	2.7	2.4	2.1	2.5	2.2
Liberal arts colleges I	2.0	2.6	2.9	3.8	3.5	3.3	4.5	3.2
Liberal arts colleges II	6.2	5.2	19.0	21.2	17.5	13.8	18.7	12.5
Specialized colleges	2.3	3.7	1.4	1.5	1.9	2.2	2.3	1.8
Two-year colleges	1.7	1.3	2.2	1.9	2.1	2.3	3.7	1.8
Total private	30.9	36.2	37.8%	43.9%	40.4	37.0	40.3%	44.4%

\* FTE enrollment.

FORMULAS (1) Equality of opportunity—payments based on number of EOG recipients. (2) Equality of opportunity—payments based on amount of EOG grants at institution. (3) Two-thirds equality of opportunity—(2 above) and one-third based on enrollment with larger grants for first 300 students. (4) One-third equality of opportunity—(2 above) and two-thirds enrollment (3 above). (5) Dual choice—alternative of payments based on \$800 per EOG or \$100 each for the first 1,000 FTE students. (6) Three-factor formula—60 percent EOG (2 above), 25 percent enrollment (3 above), and 15 percent in proportion to the amount of federal research funds received by institutions for the prior fiscal year.

NOTE: The distribution patterns in Table 7, above, are estimated from samples typically including at least 80 percent of the institutions and enrollment in higher education, but dropping somewhat below that figure whenever enrollment and financial data are combined for an individual campus. In all cases the largest available sample affording comparable data for the variables involved was used. The data are for Fiscal 1970, except for the research funds component of formula 6 which is based on data for Fiscal 1969. For further details on the data used, please see Appendix E.

### 3.1

## SUMMARY DISTRIBUTION OF INSTITUTIONAL GRANTS UNDER SIX FORMULAS

Type of institution*	Number of institutions	Percentage of FTE enrollment	Percentage of expenditures	Formula					
				(1)	(2)	(3)	(4)	(5)	(6)
Research universities	94	21.5	36.9	17.3%	19.0%	20.3%	21.7%	11.4%	37.3%
Other universities and comprehensive colleges	531	42.1	33.0	45.9	45.1	43.4	41.8	35.7	35.6
Liberal arts colleges	608	8.2	7.8	21.9	25.0	21.0	17.1	23.2	15.7
Community colleges	768	22.5	12.3	10.5	7.3	10.4	13.6	22.2	7.2
All others	686	5.7	9.9	4.4	4.0	5.0	5.8	7.6	5.3

\* Institutions are categorized according to classifications of colleges and universities developed by the Carnegie Commission for a complete description of these categories see Appendix A. The research universities category above includes public and private doctoral granting institutions with a focus emphasis on research and those with a moderate emphasis on research (1 and 2). The category "Other universities and comprehensive colleges" includes public and private institutions with a moderate or limited emphasis on doctoral programs, comprehensive colleges and universities (3 and 4 11 13 14 21 22). The category "Liberal arts colleges" includes private liberal arts colleges (1) and private liberal arts colleges (11 13 14 and 31). The category "Community colleges" includes public two-year colleges (4) institutions included in the category "All others" are postsecondary health and other specialized institutions, public liberal arts colleges (11, and private two-year colleges (4 private, 3).

FORMULA: (1) Equality of opportunity: payments based on number of EOG recipients; (2) Equality of opportunity: payments based on amount of EOG grants at institutions; (3) Two-thirds equality of opportunity: (2) above and one-third based on enrollment with larger grants for first 100 students; (4) One-third equality of opportunity: (2) above and two-thirds enrollment; (5) above; (6) Dual choice: alternative of payments based on number of EOGs or enrollment; (7) 100 for each of first 1000 students or 5000 for each EOG; (8) Three factor formula: (a) percent EOGs (2) above, 25 percent enrollment, (3) above, and 75 percent in proportion to the amount of Federal research funds received by institutions for the prior fiscal year.

NOTE: For a further discussion and description of these formulas, see Section II, p. 33.

# FORMULAS GIVING PREFERENCE TO SMALL COLLEGES

Type of Institution	Per-centage of FTE enrollment	Enrollment formula		Degrees-awarded formula		EOG formula	
		(1) Lower division = 1 Upper division = 1½ Graduate = 2	(2)* (1) plus bonus for first 300 students	(3) \$100 per baccalaureate degree awarded	(4)† (3) with higher awards for smaller colleges	(5) \$500 per EOG recipient	(6)‡ (5) with higher awards for smaller colleges
<b>Public</b>							
Research and doctoral universities I	9.6	12.0	10.1	10.1	5.8	8.0	4.3
Research and doctoral universities II	2.8	8.6	7.2	8.3	6.3	6.3	2.4
Doctoral granting universities I	3.5	4.0	3.4	4.3	3.8	2.9	1.7
Doctoral granting universities II	3.3	3.7	3.1	4.0	3.5	3.3	1.7
Comprehensive colleges and universities I	20.5	21.8	18.9	24.9	23.6	23.2	19.2
Comprehensive colleges and universities II	5.2	5.5	5.2	6.8	7.8	7.2	7.9
Liberal arts colleges II	0.4	0.4	0.5	0.2	0.3	0.5	0.4
Specialized colleges	1.3	1.3	1.2	1.0	1.4	0.3	0.4
Two-year colleges	22.5	14.3	16.7			10.5	12.0
<b>Total public</b>	<b>69.1</b>	<b>71.7</b>	<b>66.3</b>	<b>59.6</b>	<b>52.5</b>	<b>62.2</b>	<b>50.3</b>

#10 (30)

# EFFECTS OF ALTERNATIVE ALLOCATION FORMULAS BASED ON DEGREES AWARDED

**TABLE 4** *Effects of alternative allocation formulas based on degrees awarded (figures represent estimates of percentage of total institutional grant funds distributed received by each category of institutions under five alternative formulas using degrees awarded)*

Type of institution	(1) \$100 per B.A. or B.S.	(2) \$100 per B.A. \$50 per A.A.	(3) \$100 per B.A. or B.S. \$50 per A.A. \$25/ 1 year certificate \$75/ 2 year certificate	(4) same as (3) \$200 per M.A. and \$400 per Ph.D.	(5) \$100 per B.A. or B.S. \$200 per M.A. \$400 per Ph.D.
<b>Public</b>					
<i>Research and doctoral universities I</i>	10.1%	9.2%	8.5%	12.5%	14.0%
<i>Research and doctoral universities II</i>	8.3	7.4	6.9	8.7	9.8
<i>Doctoral granting universities I</i>	4.3	3.8	3.6	4.0	4.4
<i>Doctoral granting universities II</i>	4.0	3.6	3.3	3.8	4.3
<i>Comprehensive colleges and universities I</i>	24.9	22.2	20.8	18.7	19.5
<i>Comprehensive colleges and universities II</i>	6.8	6.0	5.6	4.9	5.5
<i>Liberal arts colleges II</i>	0.2	0.2	0.2	0.1	1.4
<i>Specialized colleges</i>	1.0	0.9	0.9	0.9	0.9
<i>Two-year colleges</i>		8.7	13.8	9.0	
<b>Total public</b>	59.6	62.1	63.7	62.5	59.8

# EFFECTS OF WEIGHTING STUDENTS BY LEVEL OF INSTRUCTION ON ALLOCATIONS

TABLE 3 Effects of weighting students by level of instruction on allocations of institutional grants by type of institution (figures are estimates of total institutional grant funds distributed received by each category of institutions under five alternative weights for level of instruction)

Type of institution	(1) Undergraduate only	(2) Undergraduate only Lower division = 1 Upper division = 1½	(3) Undergraduate = 1 Graduate = 2	(4) Lower division = 1 Upper division = 1½ Graduate = 2	(5) Undergraduate = 1 Graduate = 3
<b>Public</b>					
Res. and doctoral universities I	8.2%	9.7%	11.7%	12.0%	12.6%
Res. and doctoral universities II	7.5	7.7	8.3	8.6	8.6
Doctoral granting univ. I	3.9	3.9	3.8	4.0	3.9
Doctoral granting univ. II	3.4	3.7	3.5	3.7	3.5
Comprehensive coll. and univ. I	20.8	23.5	20.6	21.8	19.9
Comprehensive coll. and univ. II	6.9	6.1	5.2	5.5	5.0
Liberal arts colleges II	1.2	0.5	0.4	0.4	0.4
Specialized colleges	1.0	1.0	1.7	1.3	2.0
Two-year colleges	20.8	17.3	16.1	14.3	14.6
Total public	73.7	73.3	71.3	71.7	70.5

# ESTIMATED PERCENTAGE OF TOTAL REVENUES FROM ALL SOURCES

Carnegie classification	Federal	State	Other
<b>Public</b>			
<i>Research and doctoral universities I</i>	27%	34%	39%
<i>Research and doctoral universities II</i>	21	39	40
<i>Doctoral granting universities I</i>	15	42	43
<i>Doctoral granting universities II</i>	9	45	46
<i>Comprehensive universities and colleges I</i>	7	50	43
<i>Comprehensive universities and colleges II</i>	7	51	42
<i>Liberal arts colleges I</i>			
<i>Liberal arts colleges II</i>	10	50	40
<i>Specialized colleges</i>	59	21	20
<i>Two-year colleges</i>	6	39	55
<b>Private</b>			
<i>Research and doctoral universities I</i>	52	1.0	47
<i>Research and doctoral universities II</i>	28	0.5	71
<i>Doctoral granting universities I</i>	27	0.4	72
<i>Doctoral granting universities II</i>	11	0.1	88
<i>Comprehensive universities and colleges I</i>	6	1.0	93
<i>Comprehensive universities and colleges II</i>	6	0.4	94
<i>Liberal arts colleges I</i>	4	0.5	96
<i>Liberal arts colleges II</i>	6	0.4	94
<i>Specialized colleges</i>	8	2.0	90
<i>Two-year colleges</i>	5	0.4	95

\*The figures in this table are based on data obtained from the Office of Education Higher Education General Information Survey for FY 1968. It should be noted that they are "estimates" only rather than "actual" average cost figures, inasmuch as all institutions do not report financial data, and also several multicampus systems report data by systems and could not be categorized by institutional classification. As a result, major public universities, many of which are multicampus systems and receive substantial federal funds, are underrepresented in the above figures.

# EFFECTS OF VARIOUS ENROLLMENT DEFINITIONS ON ALLOCATIONS

**TABLE 2** *Effects of various enrollment definitions on allocations of institutional grants by type of institution (figures are estimates of the percentage of total institutional grant funds distributed received by each category of institutions under four alternative definitions of enrollment)*

Type of institution	All institutions		Accredited institutions only	
	All students	Degree-credit students	Full-time students	Full-time equivalent students
<i>Public</i>				
<i>Res. and doctoral universities I</i>	9.1%	10.5%	11.2%	9.4%
<i>Res. and doctoral universities II</i>	6.8	7.4	8.3	8.1
<i>Doctoral granting univ. I</i>	3.3	3.9	4.0	3.9
<i>Doctoral granting univ. II</i>	3.2	3.6	3.7	3.6
<i>Comprehensive coll. and univ. I</i>	19.9	21.6	22.1	21.9
<i>Comprehensive coll. and univ. II</i>	5.1	5.6	5.6	5.7
<i>Liberal arts colleges II</i>	0.4	0.5	0.5	0.5
<i>Specialized colleges</i>	1.2	1.4	1.1	1.1
<i>Two-year colleges</i>	26.0	16.9	16.1	18.5
<i>Total public</i>	75.0	71.4	72.1	72.6

EXPENDITURES

cf. 9.1 for specific expenditure statistics - Cards # 1459 -  
#1490.



3.1

PUBLIC EXPENDITURES ON HIGHER EDUCATION (in millions of dollars)

1939-40	\$ 216
1949-50	1,082
1959-60	2,608
1969-70	10,830
1971-72	13,140*
1980	20,000/

\* Estimated  
/ Projection

Source: Appendix A, Tables A-2, A-3, A-8, A-13; and projection by Carnegie Commission staff.

#18 (20)

# Projections of total current fund expenditures from 1970-71 to 1980-81

**TABLE 1** Projections of total current fund expenditures in higher education from academic year 1970-71 to academic year 1980-81, using various growth rates and projected FTE enrollments\*

	Average annual percent growth rate	Total FTE enrollment* in 1980-81 (1,000's)	1980-81 expenditures (constant 1970-71 dollars)	
			Total current fund expenditures per FTE student	Total current fund expenditures (\$ billions)
(A) Rate of growth in total current fund expendi- tures per senior FTE faculty member, 1959-60 to 1970-71	4.2	9756	\$5620	\$54.8
Rate of growth in total current fund expendi- tures per FTE student.				
(B) 1959-60 to 1970-71	3.4	9756	\$5203	\$50.8
(C) 1929-30 to 1959-60	2.5	9756	\$4762	\$46.5
(D) Rate (B) minus 1.0	2.4	9756	\$4721	\$46.1
(E) Rate (B) minus 1.0	2.4	8780+	\$4721	\$41.4

\* The projections are of total current fund expenditure per FTE student, from which projected total current fund expenditures are computed.

+ 8780 is 90 percent of 9756.

#12 (13)

## Total current fund expenditure relative to gross national product

**TABLE 3**  
Total current  
fund expenditure  
in higher  
education  
relative to  
gross national  
product,  
1959-60,  
1970-71, and  
projected  
1980-81, in  
constant  
1970-71 dollars

Year	(1) Total current fund expendi- ture in higher education \$ billions	(2) Gross national product \$ billions	(3) Expenditure as a percentage of (2)
1959-60	7.6	666.5	1.1
1970-71	24.9	1000.5	2.5
1980-1981 (A)	54.8	1000.5	3.6
1980-1981 (B)	50.8	1000.5	3.3
1980-1981 (C)	46.5	1000.5	3.1
1980-1981 (D)	46.1	1000.5	3.0
1980-1981 (E)	41.4	1000.5	2.7

NOTE: Letters (A) through (E) correspond to those in Table 1.

SOURCES: Total current fund expenditures are from the *Digest of Educational Statistics, 1970*, U.S. Office of Education, Washington, 1971, p. 98; from U.S. Office of Education figures published in the *Chronicle of Higher Education*, April 17, 1972, p. 1; and from projections made by Carnegie Commission staff.

Gross national product is from *Economic Report of the President, 1972*, p. 195 (with 1959-60 data converted to 1970-71 dollars). The GNP has been projected to 1980-81 (in 1970-71 constant dollars) at an annual average rate of increase of 4.2 percent (a rate which is currently regarded as reasonable by economists).

# Projections of total current fund expenditures from 1970-71 to 1980-81

TABLE 2 Projections of total current fund expenditures in higher education from academic year 1970-71 to academic year 1980-81, using various growth rates in real expenditures and various rates of inflation\*

	Average annual percent real growth rate	Total FTE enrollment in 1980-81 (1,000's)	Average annual percent rate of general inflation	1980-81 expenditures (constant 1970-71 dollars)	
				Total current fund expenditures per FTE student	Total current fund expenditures (\$ billions)
A)	4.2	9,756	2.0	\$6,790	\$66.2
			3.0	7,460	72.7
			4.0	8,180	79.8
B)	3.4	9,756	2.0	6,290	61.4
			3.0	6,920	67.5
			4.0	7,600	74.1
C)	2.5	9,756	2.0	5,780	56.4
			3.0	6,350	62.0
			4.0	6,980	68.1
D)	2.4	9,756	2.0	5,720	55.8
			3.0	6,290	61.4
			4.0	6,920	67.5
E)	2.4	8,780*	2.0	5,720	50.2
			3.0	6,290	55.3
			4.0	6,920	60.7

#12 (12)

\* See footnotes in previous table.

NOTE: Letters (A) through (E) correspond to those in Table 1.

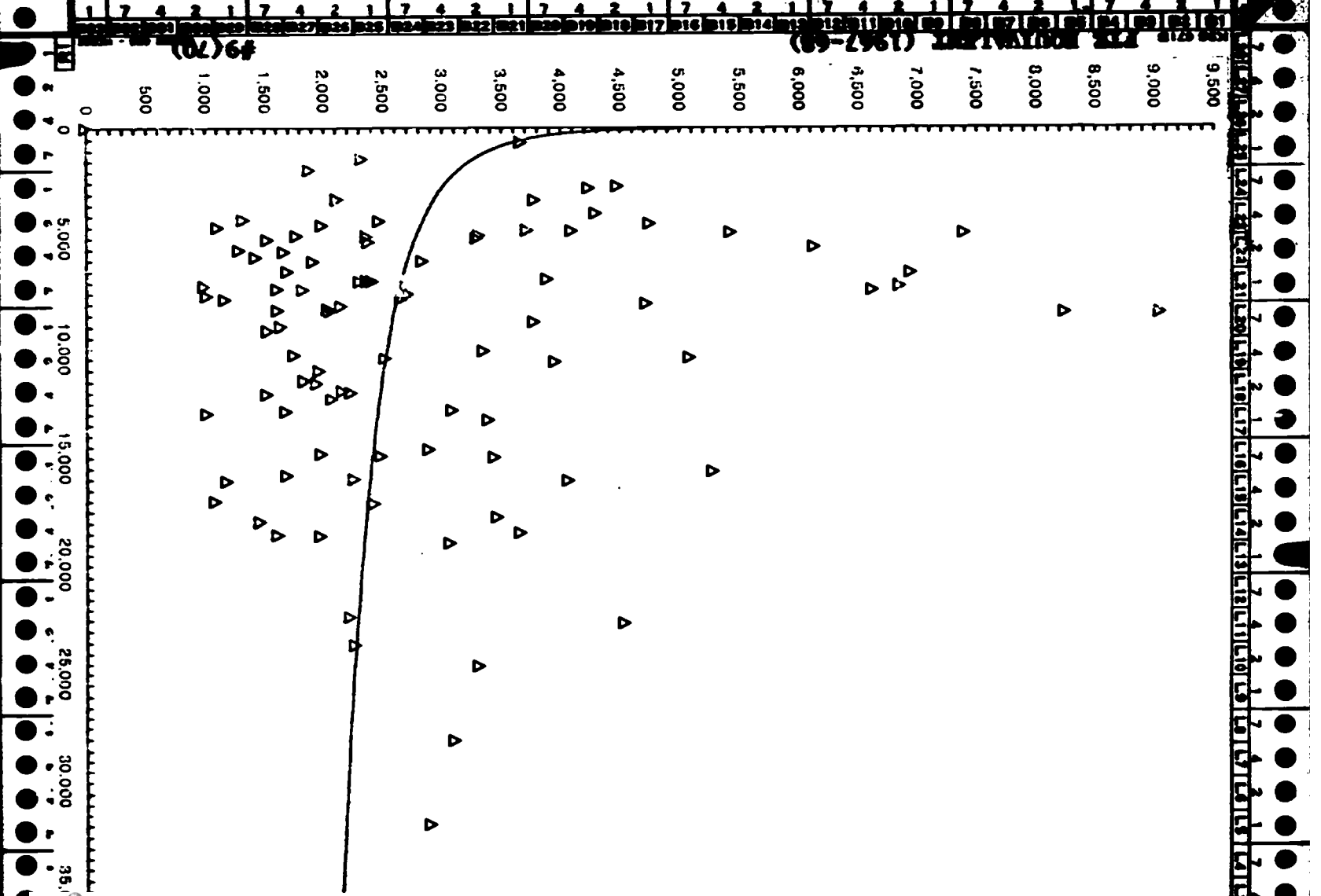
SOURCES: See Table 1.

EXPENDITURES - STUDENT

"In general, expenditures per FTE student tend to decline as we proceed from highly research-oriented universities to universities with less emphasis on research to comprehensive colleges and universities."

#12 (37)

ERIC  
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MANAGEMENT OF FINANCES - CUTBACKS

- cf. 2.1 REPRESENTATION ON BUDGET PREPARATION - #12 (105) for Commission recommendation that administration, faculty, and student representatives be involved when severe budget cuts must be made.  
C. #185.

Necessity of reducing expenditures

"...the total insitutional expenditures of higher education must be, should be, and can be reduced by nearly \$10 billion per year (in 1970 dollars) by 1980 as compared with the costs which would be incurred if the trends of the 1960s were to be continued...This is approximately a 20-percent reduction."

#12 (1)



Principal methods of saving money

"The principal sources we see for savings are as follows:

- (1) reducing the number of students by
  - (a) accelerating programs
  - (b) reducing the number of reluctant attenders.
- (2) making more effective use of resources in relation to the students in attendance \*
- (3) accepting 'windfall' changes that result from the logic of the situation..." \*\*

\*cf.: 4.12 /4.13 Ph.D. programs - more effective use of resources  
Card # 1032.

4.3	Dept. size - more effective use of resources	-C. #1070
4.4	Innovations in instruction -	" " " -C. #1091
9.7	Improving management -	" " " -C. #1503
3.22	Faculty teaching load -	" " " -C. # 643
3.22	Faculty - student ratio -	" " " -C. # 634
3.31	Capital facilities -	" " " -C. # 875
** cf.:		
3.24	Enrollment	-C. # 772
3.22	Faculty salaries	-C. # 652
3.13	Federal research expenditures	-C. # 500

#12 (16-18)

ENDOWMENT MANAGEMENT

"The Commission recommends that colleges and universities should (1) aim to maximize long-term total return in the investment of endowment funds, (2) delegate responsibility for portfolio management to an able professional, and (3) generally follow modern principles of endowment management."

#12 (148)

ENDOWMENT FUNDS

"The Commission recommends that public institutions of higher education, as well as private institutions, pursue systematic and vigorous policies aimed at attracting additions to their endowment funds."

#12 (149)

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405

3.11

**LOCAL FUNDING FOR METROPOLITAN EDUCATIONAL OPPORTUNITY COUNSEL-  
ING CENTERS**

**Cf. 8.3 METROPOLITAN EDUCATIONAL OPPORTUNITY COUNSELING CENTERS  
#14 (117) - C. # 1330.**

LOCAL FUNDING FOR LEARNING PAVILIONS

"Funding responsibility for construction and operation of such facilities (Learning Pavilions) will reside with metropolitan or county governments."

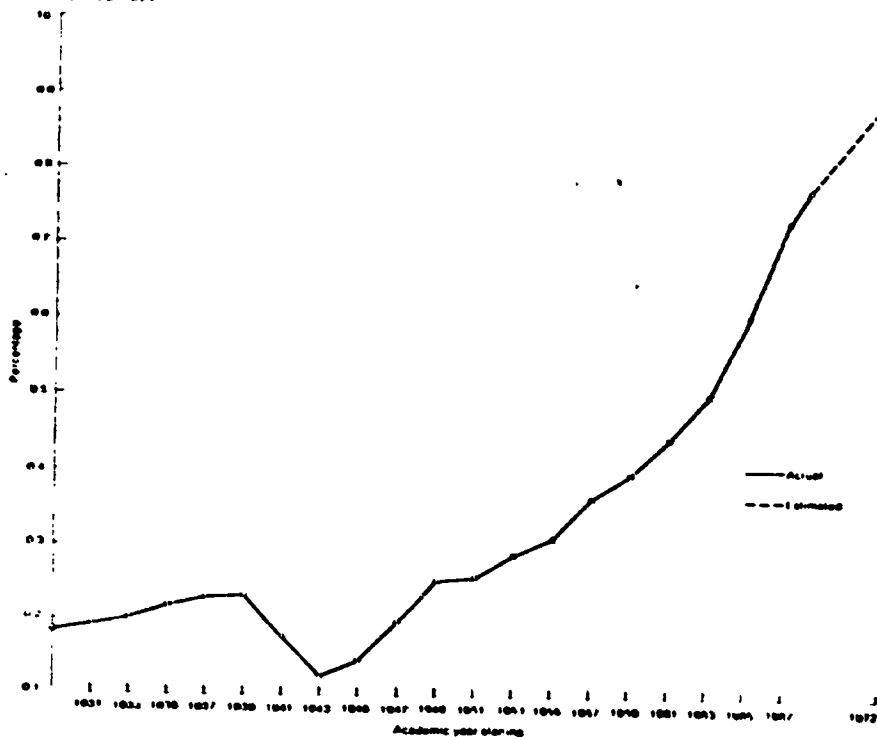
cf. 4.4 LEARNING PAVILIONS - Card #1175 - #1178.

#21 (97)

3.11/3.12

# STATE AND LOCAL EXPENDITURES ON HIGHER EDUCATION

APPENDIX CHART 2 State and local expenditure on higher education including student aid as a per. centage of personal income, 1929-1977



#22 (107)

UTTM 400 - 1000

3.11/3.12

INNOVATIONS IN STATE AND LOCAL FUND SOURCES

cf. 3.15 STATE AND LOCAL FUND SOURCES - #R37 (84) - c. #529.

# STATE AND LOCAL EXPENDITURE ON HIGHER EDUCATION

3.11/3.12

APPENDIX TABLE 6 State and local expenditure on higher education, including student aid, as a percentage of personal income

YEAR	PERCENTAGE OF PER CAPITA PERSONAL INCOME
1929-30	0.185
1931-32	
1933-34	0.203
1935-36	0.219
1937-38	0.229
1939-40	0.232
1941-42	0.177
1943-44	0.127
1945-46	0.146
1947-48	0.199
1949-50	0.254
1951-52	0.259
1953-54	0.290
1955-56	0.312
1957-58	0.364
1959-60	0.397
1961-62	0.444
1963-64	0.502
1965-66	0.608
1967-68	0.735
1968-69	0.765
1972-73	0.900*

\* Estimated

Of. 3.12 COMPARISONS OF STATE EXPENDITURES - #5 (48-49) - C. #432

#22 (106)

ERIC

LITTON ASS. - MCEEE



STATE EFFORT

3.12

"Largely through state effort, higher education has ceased to be the privilege of a few and has become a possibility for the majority of high school graduates."

#5 (7)

STATE RESPONSIBILITY FOR POSTSECONDARY EDUCATION

The Commission reasserts the responsibility of state governments for providing postsecondary education in the United States, recommending that "The states will make adequate provision, within the full spectrum of their postsecondary education resources, for educational opportunities adequate to the divergent needs of all their citizens."

#21 (69)

MAXIMIZING BENEFITS OF STATE EXPENDITURES ON HIGHER EDUCATION

The Carnegie Commission "believes that states can maximize the benefit of their expenditures on higher education and strengthen the colleges and universities in their states by participating in the regional cooperative activities undertaken through the regional boards...."

#10 (105)

STATE FUNDING

The Commission notes that "The states, in addition, (to federal assistance) will need to raise their average contribution to about 1.0 percent of personal income in order to provide facilities for the additional students, to offset the rising costs per student, to supplement the student aid available from the federal government, and to provide assistance for private institutions."

#22 (66)

STATE POLICIES OF FUNDING

The Carnegie Commission recommends that state governments take positive steps toward a gradual narrowing of the tuition differential between public and private institutions in their jurisdictions. This can be accomplished through adjustments in tuition levels at public institutions with an accompanying statewide program of student aid that will minimize the cost to the low-income student, by a program of direct or indirect support to private institutions to enable them to keep tuition charges from rising unduly rapidly, or by a combination of both."

#18 (114)

# STATE FINANCIAL SUPPORT

State planning agencies responsible for postsecondary education are advised by the Carnegie Commission to be aware of the needs of all types of institutions. (Cf. 6.0 STATE SUPPORT OF PUBLIC SERVICE FUNCTION - #14 (117) - C. #1212.) The Commission recommends that "State coordinating agencies will become increasingly aware of the resources of all postsecondary educational institutions in their states and, in partnership with those affected, will utilize their influence to assure adequate financial support for their institutions and to minimize unnecessary duplication of specialized programs in colleges and universities and other institutions offering postsecondary education."

#21 (70)

# STATE FUNDING RECOMMENDATIONS

Our recommendations encourage the following state actions:

Assume greater responsibility for the well-being of all higher education within their boundaries, recognizing that private colleges and universities provide public benefits similar in nature and magnitude to those of state or municipal colleges and universities

Reform state tax systems to make them more progressive, thus providing greater equity in the financing of education and other public services

Provide adequate support to public institutions to maintain the quality of programs and to accommodate all students who can benefit from postsecondary education and training

Through funding formulas for public institutions, assure that tuition charges for the first two years of postsecondary education are not beyond the means of students from low-income families

Enable students of limited means to attend either public or private colleges by developing a comprehensive student-assistance program that adequately supplements federal programs

Support action to narrow gradually the tuition gap between public and private institutions through tuition adjustments in public colleges and universities

Provide modest, direct, institutional aid to private colleges and universities, and/or tuition grants that take into account higher tuition at private institutions

STATE BUDGET REVIEW

Cf. 2.32 BUDGET REVIEW - #5 (28) for recommendation that budget review powers not be used as academic controls.  
Card # 297.



INCREASED STATE FUNDING

The Commission recommends that "States that rank low in terms of the proportion of students going on to higher education substantially increase their financial commitment to higher education."

#5 (56)

TABLE 5  
Percent of per-  
sons having  
"senior" on all  
higher education  
(1967-68)

State	Percent	Rank
Wyoming	148	1
South Dakota	130	2
North Dakota	128	3
Arizona	122	4
New Mexico	119	5
Nebraska	113	6
Oregon	113	7
Washington	112	8
Louisiana	110	9
Utah	110	10
West Virginia	110	11
California	109	12
Montana	107	13
Colorado	106	14
Idaho	105	15
Iowa	100	16
Michigan	99	17
Minnesota	97	18
Mississippi	95	19
Kentucky	92	20
Kansas	83	21
Arkansas	83	22
Missouri	83	23
Indiana	83	24
Alabama	79	25
South Carolina	77	26
Florida	77	27
Texas	77	28
Nebraska	76	29
Illinois	75	30
Wisconsin	75	31
North Carolina	74	32
Massachusetts	74	33
Utah	73	34
Oklahoma	73	35
Tennessee	70	36
New York	63	37
Rhode Island	67	38
Minnesota	67	39
Maryland	62	40
Alaska	59	41
Vermont	54	42
Delaware	54	43
Pennsylvania	52	44
New Hampshire	50	45
Connecticut	46	46
Ohio	43	47
Mississippi	39	48
New Jersey	31	49
50 states	758	50

\*Through state and local laws.

SOURCE: Financial Statistics of Institutions of Higher Education, 1967-68, U.S. Department of Health, Education, and Welfare, Washington, D.C., 1970. Data abstracted from U.S. State, 1968, U.S. Department of Commerce, Bureau of Census, Washington, D.C., 1969.

NEED FOR STATE SUPPORT TO EXCEED .6 PERCENT OF CAPITA INCOME<sup>312</sup>

The Commission recommends that states with a present expenditure of less than 0.6 percent of percapita personal income spent through state and local taxes for higher education should take immediate steps to increase their financial support of higher education.<sup>h</sup>

#5 (114)

STATE GRANTS

"State grants to institutions for general support should be based on broad formulas and not line-item control."

#16 (29)

PROGRAM OF TUITION GRANTS

The Commission recommends that "states establish a program of tuition grants for both public and private institutions to be awarded to students on the basis of financial need. Only after establishment of a tuition grants program should states consider raising tuition levels at public institutions. To avoid upward pressures on private tuition from such grants, states would need to set a maximum tuition grant."

#5 (86)

# STATE FUNDING OF EDUCATION

The Carnegie Commission recommends that "States with regressive tax structures should develop more progressive tax systems in the interest of greater equity and adequacy in the financing of education and other public services."

#18 (105 )

INCREASED STATE SUPPORT NECESSARY IN SOME STATES

The Carnegie Commission recommends that "states with a present expenditure of less than 0.6 percent of per capita personal income spent through state and local taxes for higher education should take immediate steps to increase their financial support of higher education." Using 1966-67 expenditure figures, Maine, Delaware, Virginia, New Hampshire, Pennsylvania, Connecticut, Ohio, Mass., and New Jersey must increase their financial support.

#10 (105)

3.12

## STATE FUNDING OF COMMUNITY COLLEGE EDUCATION

Of interest to institutions who depend on state funding is the Carnegie Commission recommendation that "states revise their legislation, wherever necessary, to provide for uniform low tuition or no tuition charges at public two-year colleges."

#3 (46)



STATE SCHOLARSHIP PROGRAMS

The Carnegie Commission particularly supports "state scholarship programs that aid attendance of low-income students at private colleges and universities."

#10 (7)

# STATE FUNDING - RETURN LIMITED IN GRADUATE EDUCATION

The Carnegie Commission observes that, because the market for holders of graduate degrees is more clearly national, the individual states "cannot be assured of clear-cut returns to their investment in these levels of education."

#15 (152)

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- 428 -

3,12

# STATE FUNDING FOR METROPOLITAN EDUCATIONAL OPPORTUNITY COUNSEL- ING CENTERS

Cf. 8.3 METROPOLITAN EDUCATIONAL OPPORTUNITY COUNSELING CENTERS  
#14 (117) - C. # 1330.



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- 430 -

3.12

## DISTRIBUTION OF STATE FUNDS

Cf. 2.32 DUTIES OF STATE AGENCY - #5 (29-30) for recommendation that "states grant to coordinating agencies some funds which the agency itself can grant to institutions to encourage quality improvement, and experimentation and innovation consistent with the state's long-range educational goals."

Card # 281.

#5 (29)

3.12

REDISTRIBUTION OF TOTAL GOVERNMENTAL COSTS

cf. 3.15 REDISTRIBUTION OF TOTAL GOVERNMENTAL COSTS - #18 (5  
Card #530.

# COMPARISONS OF STATE EXPENDITURES

- 432 -

3.12

TABLE 3. Percent of per capita income spent on public higher education, 1934-45 to 1947-48

State	1934-45	1947-48	1951-54	1961-65	Change in rank
Alabama	363%	765%	24	25	- 1
Alaska	222	794	39	24	+18
Arizona	406	1,219	20	4	+16
Arkansas	446	833	17	21	4
California	442	1,091	19	12	+ 7
Colorado	354	1,083	26	14	+12
Connecticut	176	446	43	47	- 4
Delaware	286	535	31	44	-13
Florida	390	756	21	29	- 8
Georgia	217	726	41	35	+ 6
Idaho	266	1,134	32	6	+26
Illinois	536	1,051	10	15	- 5
Indiana	257	745	37	31	+ 6
Iowa	325	828	28	23	+ 5
Kansas	572	594	5	16	-11
Kentucky	559	926	6	20	-14
Louisiana	219	562	40	19	+21
Maine	850	1,100	8	9	- 1
Maryland	164	569	42	42	0
Massachusetts	251	613	36	41	- 5
Michigan	261	308	49	49	0
Minnesota	362	827	25	22	+ 3
Mississippi	445	666	16	38	-20
Missouri	324	969	11	16	- 7
Montana	172	733	45	34	+11
Nebraska	485	1,067	15	13	+ 2
Nevada	461	756	18	28	-12
New Hampshire	276	754	34	30	+ 4
New Jersey	284	496	33	45	-12
New Mexico	933	301	50	60	0
New York	543	1,186	9	5	+ 4
North Carolina	166	618	46	40	+ 6
North Dakota	217	743	23	33	-10
Ohio	827	1,246	1	3	- 2
Oklahoma	173	432	44	46	- 2
Oregon	586	726	4	35	-32
Pennsylvania	307	1,128	12	7	+ 5
Rhode Island	664	446	46	46	+ 0
South Carolina	150	666	47	39	+ 8
South Dakota	378	771	22	26	- 3
Tennessee	856	1,897	7	2	+ 5
Texas	266	693	35	37	- 2
Utah	338	763	27	27	0
Vermont	619	1,097	3	10	- 7
Virginia	324	744	29	32	- 3
Washington	242	638	36	46	- 8
West Virginia	480	1,180	13	6	+ 8
Wisconsin	469	1,095	14	11	+ 3
Wyoming	264	965	30	17	+13
50 states and Washington, D.C.	646	1,490	2	1	+ 1
	308	742			

Source: Federal Bureau of Investigation, Bureau of Economic Analysis, U.S. Department of Health, Education, and Welfare, Washington, D.C., 1970. Statistical Abstract of the United States, 1969, U.S. Department of Commerce, Bureau of the Census, Washington, D.C., 1969.

OF. 3.11/3.12 STATE AND LOCAL EXPENDITURE ON HIGHER EDUCATION - #22 (106) - C. # 409.

#5 (48-49)

1749 401 - 1000

# PERCENT OF PER CAPITA TAXES SPENT ON PUBLIC HIGHER EDUCATION

TABLE 4  
Percent of per  
capita taxes  
spent on public  
higher education:  
1967-68

State	Percent	Rank
Wyoming	12.01	1
West Virginia	11.43	2
North Dakota	11.30	3
Oregon	11.00	4
New Mexico	10.92	5
South Dakota	10.88	6
Kentucky	10.84	7
Washington	10.60	8
Louisiana	10.32	9
Arizona	10.22	10
California	9.92	11
Utah	9.91	12
Montana	9.55	13
Massachusetts	9.47	14
Colorado	9.45	15
Illinois	9.38	16
Alaska	9.29	17
Iowa	9.24	18
Texas	9.22	19
Idaho	9.20	20
Kansas	9.00	21
Indiana	8.95	22
Michigan	8.87	23
Hawaii	8.78	24
Alabama	8.72	25
Arkansas	8.68	26
South Carolina	8.62	27
Wisconsin	8.55	28
Nebraska	8.52	29
Missouri	8.47	30
Georgia	8.18	31
North Carolina	8.04	32
Florida	7.91	33
Tennessee	7.76	34
Ohio	7.56	35
Rhode Island	7.46	36
Nevada	7.36	37
Vermont	6.62	38

State	Percent	Rank
Maryland	6.59	39
Virginia	6.37	40
Maine	5.99	41
New Hampshire	5.87	42
Minnesota	5.86	43
Delaware	5.72	44
Ohio	5.55	45
Connecticut	5.28	46
New York	5.14	47
Pennsylvania	5.11	48
Massachusetts	3.68	49
New Jersey	3.46	50
50 states	7.6	

\*Includes state and local taxes

SOURCE: Financial Statistics of Institutions of Higher Education, 1967-68, U.S. Department of Health, Education, and Welfare, Washington, D.C., 1970. Statistical Abstract of the United States, 1969, U.S. Department of Commerce, Bureau of the Census, Washington, D.C., 1969



# SUMMARY OF ALL STATE COMPREHENSIVE UNDERGRADUATE GRANT PROGRAMS

TABLE 7  
Summary of  
all state  
comprehensive  
undergraduate  
grant programs  
(competitive and  
non-competitive)  
for residents of  
the state to  
attend either  
public or  
nonpublic  
colleges or  
universities\* (for  
1969-70)

State	Total dollars appropriated	Number of awards	Average award	Ratio of number of awards to number of 18- to 24 year olds
California	\$ 12,283,475	14,650	\$837	.010
Connecticut	877,500	1,440	609	.008
Illinois	26,000,000	38,475	676	.055
Indiana	3,030,000	6,556	470	.019
Iowa	1,762,500	2,275	775	.013
Kansas	150,000	409	367	.003
Maine	61,000	150	407	.002
Maryland	2,900,000	7,250	400	.025
Massachusetts	2,000,000	3,000	667	.009
Michigan	12,500,000	24,030	526	.041
Minnesota	775,000	1,293	603	.005
New Jersey	11,850,000	26,656	445	.060
New York	58,800,000	263,000	224	.230
Oregon	811,400	6,961	117	.051
Pennsylvania	51,900,000	77,400	671	.108
Rhode Island	1,500,000	2,000	750	.032
Vermont	1,699,255	2,100	523	.079
West Virginia	175,000	625	280	.005
Wisconsin	2,950,000	9,510	350	.035
TOTALS	\$191,484,130	487,806	\$393	.066

\*Source for first three columns is an unpublished paper entitled *An Examination of State Efforts in Removing Financial Barriers to Postsecondary Education* by Joseph D. Boyd. The last column is based on calculations by the Carnegie Commission staff.

In addition to the state programs included in Mr. Boyd's table, there is also a newly established Instructional Grants Program in Ohio providing up to \$900 to needy students attending private institutions and up to \$300 for those attending public institutions. In 1970-71, Ohio appropriated \$8.5 million for this program.

### 3.12

## ALLOCATING FUNDS UNDER STATE-ADMINISTERED FEDERAL PROGRAMS

**OF. 2.32 AUTHORITIES OF COORDINATING AGENCIES - #5 (37)-C. #280.**

RESIDENCY REQUIREMENTS

cf. 1.2 ESTABLISHING STATE RESIDENCY - #5 (59) - c. #100.

3.12

3.12 / 3.13

# FEDERAL FUNDING AND STATE FUNDING

Repeatedly, the Carnegie Commission issues the caveat against considering federal funds as a substitution for state aid. Instead, the Commission insists that the present distinction between federal and state responsibility, which renders the federal funding as a "supplemental," be maintained.

#10 (43)

3.12/3.13

STATE AND FEDERAL FUNDS FOR TRAINING TEACHERS OF EDUCATIONALLY DISADVANTAGED

"The Commission recommends the allocation of state and federal funds to colleges and universities for specific programs to meet the present needs of inner-city schools, and of desegregated schools with heterogeneous classroom enrollments."

cf. 4.11/4.12/4.13 NEED FOR TRAINING TEACHERS OF EDUCATIONALLY DISADVANTAGED  
#2 (6) for specific programs recommended - C. #983.

#2 (6)

3.12, 3.13, 3.14

FUNDS FOR INNOVATIONS

"The Commission also recommends that state and federal government agencies, as well as private foundations, expand programs of support for the development of external degree systems and open universities along the lines of programs initiated within the last year or so. It will also be important for governmental bodies and foundations to provide funds for evaluation of these innovative programs as they develop."

#9 (117)

FUNDS FOR CLUSTER COLLEGE RESEARCH

"The Commission also recommends that the federal government, the states, and private foundations make funds available for research evaluating the comparative experience of these (cluster) colleges."

#9 (89)

STUDENT AID - BASIC OPPORTUNITY GRANTS

- cf. 8.4 - All headings relative to Federal Fund Grants- C. #1423  
- #1427.  
8.8 FEDERALLY SPONSORED PROGRAMS OF FINANCIAL AID - #21 (59-66) -  
C. #1456.



FORMS OF FEDERAL AID

The Carnegie Commission recommends that federal aid should satisfy the following requirements:

Draw forth to the extent possible, rather than merely replace, state and private support

Provide for flexibility and periodic reevaluation to determine whether changing national needs warrant reallocations

Assist both public and private institutions—the latter, of course, for nonsectarian purposes only

Improve equality of educational opportunity for all able young people

Rely heavily upon market processes through free student choice of institution and field of study

Preserve institutional autonomy and integrity

Encourage diversity

Provide an incentive for innovation

Maintain among distinguished institutions of learning a margin for excellence, a premium for quality

Use competitive principles in the support of academic quality, through nationwide competition for graduate fellowships and for institutional proposals in various special program fields

# CARNEGIE PROPOSALS FOR FEDERAL AID

(Dollars in millions)

## To institutions

Cost-of-education supplements	\$ 950
Construction	900
Research	1,650
Foundation for postsecondary education	200
Special programs	250
Institutional Scholarship grants	90
Subtotal	\$4,040

## To students

Educational opportunity grants	\$1,175
Work-study program	900*
Graduate talent search	15
Doctoral fellowships	80
Loan program	130
Counseling program	30
Subtotal	\$2,330

\* Although these funds go to students, some of the benefit goes to the institution through institutional services that can be financed in part by work-study payments.

NOTE: Recommendations for federal funding for education in the Health Sciences is discussed in a special Commission report, *Higher Education and the Nation's Health: Policies for Medical and Dental Education*. McGraw-Hill Book Company. October 1970.

# ESTIMATE OF FEDERAL EXPENDITURES FOR COMMISSION PROPOSALS

Estimate of  
Federal  
expenditures  
for Commission  
proposals (in  
millions of  
constant dollars)

	Q & F 1976-77	Revised proposals 1976-77	Q & F 1976-77	Revised proposals 1976-77	Revised proposals 1976-77
<i>Student aid programs</i>	1,305	2,420	3,560	4,335	4,884
<i>Educational opportunity grants</i>	1,100	[1,265]	[2,140]	[2,325]	[2,714]
<i>Work study program</i>	50	[800]	[870]	[1,560]	[1,600]
<i>Chancellor's program</i>	30	[30]	[40]	[40]	[50]
<i>Graduate career search</i>	25	[15]	[100]	[40]	[50]
<i>Distance education</i>	110	[80]	[160]	[120]	[120]
<i>Loan program</i>	[130]	[130]	[250]	[250]	[250]
<i>Cost of education supplements</i>	1,130	850	2,710	2,600	3,610
<i>Construction</i>	1,150	900	825	725	700
<i>Research</i>	1,900	1,650	3,210	2,090	2,350
<i>Foundation for the development of higher education</i>	100	200	200	200	200
<i>Special programs</i>	300	250	800	600	800
<b>TOTALS</b>	<b>8,585</b>	<b>8,370</b>	<b>11,405</b>	<b>10,550</b>	<b>12,644</b>

\*See second paragraph of this chapter for explanation of discrepancies between 1976-77 and estimates in Quality and Equality. Does not include costs for veterans' educational benefits nor for Peace Corps or NISTA educational benefits, or extensions of any of the programs to cultural and technical students taking courses in institutions other than community colleges.

\*Q & E is abbreviation for Quality and Equality.

FEDERAL FUNDING PACKAGE

Cf. 8.4 FINANCIAL AID PACKAGE - FLEXIBILITY OF USE - #1A (7)-  
C.#1410.

COMPONENTS THAT CONTROL DISTRIBUTION

- 1 Allocations tied to general inputs, such as various types of enrollment measures, a useful technique for programs with very broad purposes (for examples of formulas using this approach see H.R. 7248, Appendix E-1; S. 2195, Appendix E-2; and Basic Enrollment Formula, Appendix E-3).
- 2 Allocations tied to some general output measure such as degrees awarded—sometimes suggested as an approach more concerned with quality of program than general input formulas (for an example see H.R. 5193, Appendix E-4).
- 3 Special increments for small colleges—often considered useful for meeting financial-need problems, and correcting imbalances of present federal programs that favor major universities and to some extent, large institutions (for an example see H.R. 7248, Appendix E-1; H.R. 5193, Appendix E-4).
- 4 Formulas tied to specified groups of students such as returning GI's, low-income students, or highly able doctoral students, or related to particular educational programs such as science or research—considered useful for programs based on selected national priorities, or programs for which the federal government is particularly responsible (for examples see S. 659, Appendix E-5; HEW Task Force Proposals, Appendix E-6; H.R. 6535, Appendix E-7; S. 1897, Appendix E-8; and H.R. 35, Appendix E-9).
- 5 Allocations based on growth factors or increases in costs—considered useful for financial-need concerns and responsive to demand for increased student places (for examples see Bowen Formula, Appendix E-10; and Farrell-Anderson Growth Differential Formula, Appendix E-11).

# ESSENTIAL COMPONENTS OF A COMPREHENSIVE LOAN PROGRAM

- Funds for loans should be readily and assuredly available at a steadily adequate level.
- The loaning agency should not require any collateral from the student borrower, nor should borrowers be required to maintain deposits with the loaning agency.
- The loan program should include features which would result in the government sharing some of the risk for low-income years during the repayment period.
- Both the conditions for eligibility and the amount of loans permitted should be such that students are afforded a substantially expanded range of educational options.

SOCIAL JUSTICE - TOP PRIORITY FOR FEDERAL FUNDING

The Commission insists that "the highest single priority for federal funding in higher education in the 1970s is to help fulfill the two-century old American dream of social justice."

#10 (2)

# FEDERAL FUNDING

The Commission recommends that "the Federal government should provide substantially greater funds for higher education, including funds to institutions for general support of educational programs."

#10 (1)



# BENEFITS OF SELECTIVE FEDERAL AID

The Carnegie Commission notes that "now, with selective support, the federal government can use its initiative to increase equality of educational opportunity, expand the supply of health manpower, and encourage desirable innovation and reform. Selective aid at the federal level has been, and can be, a major force for drawing higher education into high-priority social endeavors."

#10 (93)

FEDERAL CONTRACTS AND AFFIRMATIVE ACTION

"We support the objectives of federal policies aimed at ensuring that institutions of higher education having contracts with the federal government pursue effective affirmative action programs, but we believe that these federal policies should be carried out in relation to each institution with due regard for the sensitive characteristics of academic employment, and for the difficulties that may be encountered by individual departments and schools in meeting affirmative action goals and timetables."

#20 (150)

EXPANDED FEDERAL PROGRAM OF AID

The Carnegie Commission proposes "an expanded federal program of aid with entitlement for low-income students that would not depend on these factors (state allotment formulas, different institutional policies for making grants with available EOG funds, and different institutional staff capacities for making applications for maximum amounts of EOG grants for the institution), but that would provide similar aid to students with similar need."

#10 (87)

PRIORITY OF FEDERAL AID

The Carnegie Commission affirms that "the first priority for any program of federal aid to higher education should be accomplishment of a basic level of equality of educational opportunity."

#10 (80)

# FEDERAL FUNDING

The Carnegie Commission suggests that "the federal government absorb about one-half of the public share of total monetary outlays for higher education, particularly by providing a more adequate financing of equality of opportunity, by increasing research expenditures along with the rising level of the GNP, and by absorbing more of the costs of graduate training, particularly at the level of the M.D., D.D.S., and PH.D."

#22 (65)

3.13

FEDERAL PROGRAMS INTENDED TO IMPROVE QUALITY AND FOSTER ACADEMIC REFORM

The Carnegie Commission recommends that "federal programs intended to improve quality and foster academic reform, are, in general based on the project grant technique rather than exclusively on any general formula...recommendations under which funds would be channeled to colleges and universities for these purposes are those related to the Developing institutions Program, and the establishment of The National Foundation for Postsecondary Education, which would be concerned with support of improvements in undergraduate education, of regional liberal arts centers, of the new technology, and of urban grant activities."

#10 (48)

**THIS PAGE WAS MISSING FROM THE DOCUMENT THAT WAS  
SUBMITTED TO ERIC DOCUMENT REPRODUCTION SERVICE.**

*p 455*

**MEANS OF FEDERAL AID:**

The Carnegie Commission suggests that best immediate means of federal aid to higher education are:

"Grants and loans to individual students to move toward the nation's goal of equal educational opportunity

Support to institutions to meet increased costs of expanding enrollment and to strengthen areas of particular national concern

Extension of support for research, for construction, and for special programs"

#1 (15)



FEDERAL AID - INTERACTING ELEMENTS OF PROGRAM

The Carnegie Commission stresses the importance of the three interacting elements of the proposed federal aid program to remove financial barriers to higher education. These elements include: "financial aid to students, with a substantial component of grants for low-income students and a moderately expanded loan program primarily for middle-income students; cost-of-education supplements to institutions; and creation of new places to accommodate all qualified students."

#1A (2)

PURPOSE OF FEDERAL FUNDING

The Carnegie Commission concludes that federal aid to higher education should be directed toward meeting two urgent national priorities:

1. "to achieve greater equality of opportunity for all young people, both for their own benefit and for the benefit of the nation..."

2. to substantially expand health service personnel

#1 (49)

FEDERAL FUNDING

The Carnegie Commission recommends that "The balance of public support for higher education must shift over the coming decade if the goal of universal access is to be achieved, and federal funds should partially relieve the states of added financial burdens resulting from the expected expansion in higher education. We recommend that federal support of higher education should gradually expand to about one-half of the total governmental contributions by the early 1980s."

#18 (105)

FEDERAL FUNDING

The Commission recommends that the following two suggestions regarding federal funding be observed:

1. "Extension and improvement of the federal Basic Opportunity Grants program"
2. "Creation of a better national student loan system"

722 (91)

NECESSITY OF FEDERAL SUPPORT

The Carnegie Commission observes that ". . .from the perspective of the fall of 1971, it appears likely that higher education will not be in a position to absorb the increased numbers of students seeking admission in the 1970s without greatly increased federal government support. . ."

Cf. 3.1 POSSIBILITY OF INCREASED TUITION - #9(42) - C. # 354 - for alternatives to lack of federal support.

#9 (42)

R20	R17	R16	R15	R14	R13	R12	R11	R10	R9	R8	R7	R6	R5	R4	R3	R2	R1
-----	-----	-----	-----	-----	-----	-----	-----	-----	----	----	----	----	----	----	----	----	----

The Carnegie Commission recommends that Federal aid should be given "in a manner which does not encourage the states and private sources to reduce their support." The Commission suggests that Federal support "based on added contributions to the national welfare" would be less subject to a diminishing of state or private contributions than "lump-sum across-the-board grants."

LITTON A-4 - MCDEER

3.13

SPECIAL ALLOCATIONS TO THE STATES' POSTSECONDARY SYSTEMS

The Carnegie Commission recommends that, "in addition to other funding for the Foundation, \$50 million be granted to the Foundation to be allocated to states or regions which would, working with the advice and assistance of the Foundation, make further plans for the effective growth of the state's postsecondary system."

#1A (27-28)

# STABILIZATION OF GOVERNMENT SUPPORT

"The federal government should not only stabilize its support of graduate training and research, but should attempt to stabilize the scope of activities, like the space program, that have in the past involved sudden and sharp shifts in the demand for scientists and engineers."

#15 (142)



## FEDERAL INFLUENCE ON GOVERNANCE THROUGH FUNDING

Cf. 2.33 AUTONOMY WITH FEDERAL AID - #10 (3) - c. #310.

FEDERAL INFLUENCE THROUGH FUNDING

Cf. 2.33 THREAT TO INDEPENDENCE - #10 (101)- c. #309.

3.13

# FEDERAL AID AND INNOVATIONS

The Carnegie Commission expresses concern that "Certain features of proposals for federal institutional aid could discourage accomplishment of these changes\*through excessive reinforcement of the status quo."

\*range of options in postsecondary education, modified existing academic programs, and new instructional programs

#10 (45)

# FORMULAS FOR FEDERAL FUNDING - CHARACTERISTICS

The Commission observes that "while differing substantially in their particular combinations of components, all formulas for federal programs of institutional grants have two principles in common:

- Public and private institutions are treated alike.
- The institutional allocation is based upon some quantitative dimension of the institution."

Cf. 3.13 COMPONENTS THAT CONTROL DISTRIBUTION - #10 (18) -C.#446

#10 (17)

GI BILL OF RIGHTS APPROACH FAVORED IN FEDERAL FUNDING

3.13

The Carnegie Commission recommends that Federal funding follow the GI Bill of Rights approach "since it makes the greatest contribution to national welfare, provides substantial support to nearly all institutions without running major risks of constitutional challenges for many of them or of reduced state support for still others, and preserves to the maximum the freedom of choice for students and the autonomy of institutions and of state systems."

#10 (3-4)

OPPOSITION TO ACROSS-THE-BOARD GRANTS

The Carnegie Commission opposes a nationalized system of higher education, and, for this reason, also opposes "lump-sum across-the-board grants to institutions from the federal government."

#10 (2)

# ACCEPTABLE FEDERAL FUNDING FORMULA

The Carnegie Commission insists that "An acceptable formula (for federal funding) must meet the demands for academic reforms it must strongly resist the tendency toward homogeneity; it must open a system which has been unnecessarily rigid and inflexible so that it can better serve higher education's new clienteles—low-income students, part-time students, older students, women, and students with goals that are different from those of the traditional institutions."

#10 (47)

# DISADVANTAGE OF USING SIMPLE GENERAL FORMULA FOR FEDERAL FUNDING <sup>3.13</sup>

The Carnegie Commission cautions against using a "relatively simple general formula...as a basis for making federal institutional grants," noting that such usage, because of the "great range of costs among institutional types, among institutions within types, and among states," will lead to "very uneven monetary impacts throughout the system."

#10 (69-70)



Cf. 9.1 GROWTH DIFFERENCE FORMULA - #10 (161)- c. #1465.

# AMOUNTS OF GRANTS - FEDERAL COST-OF-EDUCATION SUPPLEMENTS 3.13

The Carnegie Commission recommends that "Accredited colleges and universities, and institutions deemed potentially eligible for accreditation except for their recent date of establishment, would receive the following amounts for each federal grant holder enrolled:

	1970-71	1979-80
Undergraduate	\$ 500	\$1,000
First-level graduate	1,000	1,500
Doctoral	3,500	5,000

#1A (21)

3.13

# FEDERAL SUPPORT FOR INSTRUCTIONAL COSTS

The Carnegie Commission suggests that "Certain levels and types of educational programs (e.g., health sciences and research doctorate programs) are essentially national in character and thus justify some federal support for instructional costs."

The Commission also emphasizes that "Federal funds are required to encourage educational innovation designed to improve instructional programs generally, and specifically to meet the needs of higher education's new student."

#10 (14)

# FEDERAL COST-OF-EDUCATION SUPPLEMENTS

The Carnegie Commission recommends that "The federal government establish a program of cost-of-education supplements to colleges and universities based on the numbers of students enrolled in the institutions who hold grants awarded on the basis of financial need. Under this program, it is recommended that any college or university officially recognized as being eligible for participation in this program by the Office of Education, be paid \$500 for each undergraduate student at the institution that is a recipient of a grant from the federal government which was made to the student because of his financial need. Proportionate cost-of-education supplements would be paid to institutions for any part-time students who are enrolled at that institution and who hold such grants."

#10 (81)

COST-OF-EDUCATION SUPPLEMENTS AND RESIDENCY REQUIREMENTS

The Carnegie Commission recommends that "The cost-of-education supplements accompanying the doctoral fellowships recommended in the Commission's first Special Report be available only to those institutions that charge the doctoral recipient a fee that is not affected by his residency status."

#5 (60)

FEDERAL COST-OF-EDUCATION GRANTS

The Commission recommends that "the federal government grant cost-of-education supplements to colleges and universities based on the numbers and levels of students holding federal grants enrolled in the institutions."

#1 (30)

COST-OF-EDUCATION SUPPLEMENTS FOR MIDDLE INCOME RANGE

To provide education opportunity for students from families with incomes of \$10,000 to \$15,000 the Carnegie Commission recommends that "Colleges and universities officially recognized as eligible for participation in this program (cost-of-education supplements) by the Office of Education shall receive a grant of \$200 for each student who receives a subsidized loan provided, however, that no such payment shall be made for students who hold federal grants or for students who borrow less than \$200 during the fiscal year."

#10 (81)

3.13

# RECOMMENDED MAXIMUM GRANTS

The Carnegie Commission recommends that, assuming full need, the recommended maximum grants are:

1. "\$1,000 per year to students working for a recognized undergraduate degree or certificate, generally for no more than four years, but for a longer period up to a maximum of six years, provided the institution certifies that the student is in a program requiring the longer period."
2. "\$2,000 per year to students working toward a graduate degree or postgraduate certificate or credential, generally for no more than two years, but for a longer period up to a maximum of three years for students in a professional program requiring three years beyond the bachelor's degree."



FEDERAL MONIES FOR STUDENT AID

cf. 8.4 SUMMARY TABLE OF STUDENT AID AND RELATED GRANTS TO  
INSTITUTIONS - #1A (36-37)- c. #1408.

FEDERAL AID TO STUDENTS

Cf. 8.4 AID TO STUDENTS - #10 (3) - c. # 1400.

FEDERAL FUNDING FOR STUDENTS

The Carnegie Commission that "the federal government should appropriate full funding for state student incentive matching grants. We also recommend that the federal program be modified in the next several years to provide one-fourth of all state awards that meet the criterion of making up, for students with full need, the difference between federal Basic Opportunity Grants and the full cost of attending college in the first two years at public institutions, and a significant fraction of the difference in upper-division years. The awards would be reduced by appropriate amounts for students with less than full need."

#18 (112)

3.13

# FEDERAL SCHOLARSHIP FUND

The Commission recommends that "each college and university be given a scholarship fund for needy students equal to 10 percent of the total sum of educational opportunity grants (not including supplementary matching grants ) held by students at that institution."

#1 (22)

EDUCATIONAL OPPORTUNITY GRANTS

Cf. 8.4 Educational Opportunity Grants - #1 (19) - C. #1426, also  
SUPPLEMENTARY FEDERAL GRANTS WITH EDUCATIONAL OPPORTUNITY GRANTS  
#1 (21 ) - C. #1427.

# DISTRIBUTION OF RECIPIENTS OF INITIAL EOG'S BY INCOME LEVEL AND INSTITUTIONAL TYPE

TABLE 14 *Distribution of recipients of initial EOG's by income level and institutional type*

	\$0- 2.999	\$3.000- 5.999	\$6.000- 7.499	\$7.500- 8.900	Over \$9.000
<i>Public</i>					
<i>Research and doctoral universities I</i>	23%	39%	19%	13%	6%
<i>Research and doctoral universities II</i>	24	40	20	11	5
<i>Doctoral granting universities I</i>	24	38	19	12	7
<i>Doctoral granting universities II</i>	31	35	19	11	5
<i>Comprehensive colleges and universities I</i>	34	39	16	7	3
<i>Comprehensive colleges and universities II</i>	31	41	16	8	4
<i>Liberal arts colleges I</i>					
<i>Liberal arts colleges II</i>	32	49	9	4	5
<i>Specialized colleges</i>	27	42	18	10	3
<i>Two-year colleges</i>	40	37	13	7	3

[illegible]

FEDERAL SCHOLARSHIP FUND

The Commission recommends that "each college and university be given a scholarship fund for needy students equal to 10 percent of the total sum of educational opportunity grants (not including supplementary matching grants) held by students at that institution." \*

\* In the Revised Recommendations, the Commission expands its recommendation to stipulate "such funds to be allocated by the institution to students as determined by the institution's own definition of student need." #1A (6)

#1 (22)

FEDERAL LOAN BANK

cf. 3.15 NATIONAL STUDENT LOAN BANK - #18 (121)- C. #527.



# FEDERAL CONTINGENT LOAN PROGRAM

The Commission recommends that "a federal contingent loan program be created for which all students, regardless of need, would be eligible. With interest figured on the basis of federal borrowing costs, the program should be self-sustaining, except for administrative costs which would be met out of appropriations. Undergraduates would be eligible to borrow up to \$2,500 per year, and graduate students up to \$3,500 per year, for educational purposes.\* No student should be entitled to receive more in loans, all types of grants, and work-study payments in any year than the costs of education, including subsistence costs, as officially recognized by the institution in which he is enrolled

\* In the Revised Recommendations, the Commission recommends that loans available to postsecondary students not exceed \$2,500 per student, per year, up to a total of \$6,000 for undergraduate studies and \$10,000 for graduate studies.

Cf. 3.4 NATIONAL STUDENT LOAN BANK - #1A (9) - C. # 1428.  
3.15 NATIONAL STUDENT LOAN BANK - #18 (121) - C. #527.

#1 (29)

WORK-STUDY

cf. 8.4 WORK-STUDY - #1 (23) - C. #1437.

8.4 WORK-STUDY PROGRAM - #1A (5) - C. #1438.

FEDERAL FUNDING OF PART-TIME EMPLOYMENT

8.4

cf. Part-Time Employment - Federal Funding - #1 (23) - C. #1439.

# HALT TO NEW PROGRAMS OF DIRECT FEDERAL AID TO COLLEGES<sup>3.13</sup> AND UNIVERSITIES

The Carnegie Commission "has reached the unanimous conclusion that we as a nation should call a halt at this time to the introduction of new programs of direct federal aid to colleges and universities." The Commission also asserts that "it (is) undesirable for the government to expand the scope of its scholarship aid to individual students."

#10 (101)

FEDERAL FUNDS FOR INSTRUCTIONAL TECHNOLOGY

The Carnegie Commission recommends that "The federal government will need to provide...funds for distribution of effective instructional programs that use the expanded technology..."

The Commission also recommends that "annual federal expenditures for research, development, and utilization of the new media should increase from the \$100 million proposed for 1973 until they reach a sum equal to 1 percent of total national expenditures on higher education."

#11 (6-7)

The Carnegie Commission recommends that "The federal government should assume full financial responsibility for the capital expenditures required initially to establish one cooperative learning-technology center every three years between 1973 and 1992."

The Commission also recommends that "The federal government should provide at least one-third of the funds required for the operation of cooperative learning-technology centers for the first ten years of their operation."

#11 (58)

3.13

# FEDERAL SUPPORT OF RESEARCH AND DEVELOPMENT IN INSTRUCTIONAL TECHNOLOGY

The Carnegie Commission recommends that "The proposed National Foundation for Postsecondary Education and the proposed National Institute of Education should be established, and the proposed National Foundation for Postsecondary Education should be assigned responsibility for administering loans and the provision of capital investment funds and grants for the utilization of instructional technology. Grants to support research and development activities in the field of instructional technology for higher education should be made by the proposed National Institute of Education."

#11 (63)

FEDERAL FUND SOURCES - EDUCATION LEAVE BY ARMED SERVICES

cf. 4.4 EDUCATION LEAVE PROGRAMS - #21 (95) - C. #1146.



FEDERAL FUNDING FOR RESEARCH

The Carnegie Commission recommends that "Federal support for scientific research should be maintained at the same level as in the 1960s, and on a steady basis in relation to the GNP."

#22 (28)

FEDERAL SUPPORT FOR RESEARCH

The Commission insists that "There must be some stability in the flow of federal support for university-based research...There should be sufficient growth in the level of research funding to permit expansion into previously relatively neglected research fields...Research funds should be dispersed for projects which will yield the most needed results and be allocated to institutions best suited to achieve those results."

#1A (25)

FEDERAL FUNDING FOR RESEARCH

Cf. 5.2 Institutional research grants - #1 (40) - c. #1209.

Federal research expendit,,res

"Windfall" changes which the Commission s,,ggests be accepted to prod,,ce savings incl,,de:

"Research expendit,,res by the federal government are more likely to rise in the 1970s at the same rate as the GNP rather than at a rate two to three time that fast, as they did thro,,gh most of the 1960s....If these f,,nds do rise with the GNP...then the res,,lting red,,ctions in the total expendit,,res of higher ed,,cation will amo,,nt to a little over 0.5 percent a year."

#12 (19)

### 3.13

**FEDERAL FUNDING FOR RESEARCH**

**Cf. 5.0 FEDERAL FUNDS FOR RESEARCH - #17 (27)- C. #1197.**

FEDERAL RESEARCH FUNDS

3.13

Carnegie Commission Recommendation: "Federal research funds should be substantially increased for the social sciences, humanities, and creative arts from their current level of about 7 percent of the amount for science."

#17 (41)

IMPROVEMENT in RESOURCE ACQUISITION

3.13

To better enhance the purposes of higher education  
"a steadier supply of federal research funds, partic-  
ularly for basic research,..." is necessary.

#17( 4 )

# FEDERAL FUNDING OF GRADUATE TALENT SEARCH

The Commission recommends that "certain universities be selected on the basis of program proposals submitted to national panels to undertake specific graduate talent search and development programs, and that federal funding be made available for such programs in the amount of \$25 million in 1970-71, rising to \$100 million in 1976-77."

#1 (25)



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SUBMITTED TO ERIC DOCUMENT REPRODUCTION SERVICE.**

*p. 505*

# FEDERAL FUND SOURCES FOR GRADUATE EDUCATION

The Carnegie Commission observes that the federal government's support of graduate education provided by the Higher Education Amendments of 1972 consists of "flat across-the-board payments" and, therefore, is more beneficial to those institutions which educate at the master's level than to research universities that are heavily involved in the more costly doctoral education.

#15 (151)

COST-OF-EDUCATION SUPPLEMENT FOR DOCTORAL STUDENTS

3.13

The Carnegie Commission recommends that "Institutions be paid a cost-of-education supplement amounting to \$5,000 for each federal doctoral fellow enrolled at that institution."

#10 (83)

3.13

**FEDERALLY SUPPORTED DOCTORAL FELLOWSHIP PROGRAM**

The Carnegie Commission recommends that "as part of its financial aid program for students, the federal government establish a doctoral fellowship program with selection of fellows based upon demonstrated academic ability without reference to financial need for a maximum of two years to the most able graduate students who have been advanced to candidacy for a Ph.D. or equivalent research doctorate, or for a D.A. degree."

#10 (82)

FEDERALLY FUNDED LIBERAL ARTS CENTERS

Cf. <sup>7.8</sup> REGIONAL LIBERAL ARTS CENTERS - #1 (45) - C. #1309, also  
COOPERATIVE LIBERAL ARTS CENTERS - #9 (94) - C. #1310.

FEDERAL AID FOR SPECIAL PROGRAMS

The Commission recommends "increased funding (federal) for the following three programs: aid to developing institutions, library support, and international studies."

#1 (41)

# Federal Aid for Medical Schools

The Commission recommends "establishment of a substantial program of federal aid for medical education and health services for the purposes of:

Stimulating expansion of capacity at existing medical schools

Planning additional medical schools distributed on a geographical basis to provide needed service to areas not now served

Expanding educational facilities and developing new programs for the training of medical care support personnel

Increasing availability of health services in the community of the medical school and the quality of health care delivery"

#1 (33-34)

## GRANTS FOR TESTING COMPETENCIES

The Carnegie Commission recommends that "From funds allocated to the Secretary of Health, Education and Welfare for innovation and reform in higher education, grants be made available for development and testing of new techniques for assessing individual competencies."

#14 (117)



The Carnegie Commission recommends that "The New National Institute of Education make grants available to those institutions that are conducting systematic experiments with remedial education."

**#14 (117)**

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- 514 -

3.13

FEDERAL SUPPORT OF HEALTH CARE PROGRAMS

The Carnegie Commission recommends that "federal funds to support the training of health personnel should not be cut back" as long as shortages in health manpower continue.

#15 (96)

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FEDERAL FUNDING OF MEDICAL EDUCATION

Cf. 3.13 FEDERAL AID FOR MEDICAL SCHOOLS - #1 (33-34) - C. #511.

3.13

FEDERAL FUNDING OF CAREER GUIDANCE

cf. 8.3 FEDERAL AID PROGRAM - #1 (24) - C. #1329.

FEDERAL ASSISTANCE IN MANPOWER DATA GATHERING AND ANALYSIS

The Commission recommends that "The federal government should give high priority to the development of more adequate, sophisticated, and coordinated programs of data gathering and analysis relating to highly educated manpower. Because professional associations can be particularly helpful in these efforts, we also believe that federal government agencies should develop programs designed to elicit and support the efforts of these associations."

#15 (138)

FUNDING FOR URBAN OBSERVATORIES

Cf. 5.1 URBAN OBSERVATORIES - #14 (116)- C. #1205.

ESTABLISHMENT OF URBAN-GRANTS PROGRAM

The Commission recommends that "an Urban-Grants Program be established within the Department of Health, Education and Welfare with a funding of \$10 million annually for 10 years."

#14 (118)

# URBAN-GRANT PROGRAM

The Carnegie Commission recommends that "an Urban-Grant program be established which would provide 10 grants to carefully selected institutions for the purpose of undertaking a comprehensive urban commitment for their institution. These grants should not exceed \$10 million each for a ten-year period with reviews every two years."

#14 (101)



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3.13

**FEDERAL FUNDING FOR METROPOLITAN EDUCATIONAL OPPORTUNITY COUNSEL-  
ING CENTERS**

Cf. 8.3 METROPOLITAN EDUCATIONAL OPPORTUNITY COUNSELING CENTERS  
#14 (117) - C. # 1330.

3.13

NATIONAL FOUNDATION FOR THE DEVELOPMENT OF HIGHER EDUCATION

The Carnegie Commission recommends the "establishment of a National Foundation for the Development of Higher Education whose functions would be to encourage, advise, review, and provide financial support for institutional programs designed to give new directions in curricula, to strengthen essential areas that have fallen behind or never been adequately developed because of inadequate funding, and to develop programs for improvement of educational processes and techniques."

Of 3.13 SPECIAL ALLOCATIONS TO THE STATES' POSTSECONDARY  
SYSTEMS - #1A (27-28) - C. #463.

#1 (44-45)

FUTURE CHANGES IN FUNDING

c.. 3.1 FUTURE CHANGES IN FUNDING \* #18 (102) - C. #383.

INNOVATIONS IN FINANCIAL RESOURCES

Cf. 8.4 FINANCIAL AID - ALL HEADINGS for information relative to financial aid sources as well as references to innovations in financial assistance - Cards # 1400 - #1440.

"EDUCATIONAL ENDOWMENT"

Cf. 8.4 C. #1429, 1430, 1431, 1432  
recommendation

for innovative

FINANCING THROUGH ONLY TUITION

Alexander Mood proposes that "Institutions of higher education should be fully financed by tuition. Society's subsidy to higher education should be wholly distributed to students in the form of grants to enable them to pay the necessary tuition."

#R37 (88)

# NATIONAL STUDENT LOAN BANK

The Commission "once again urges that the federal government charter a National Student Loan Bank as a nonprofit corporation financed by the sale of governmentally guaranteed securities, which would serve all eligible students regardless of need. The fund should be self-sustaining, except for catastrophic risks, and should permit borrowing up to a reasonable limit that would reflect both tuition charges and subsistence costs. Loan repayments should be based upon income currently earned, and up to 40 years should be permitted for repayment. Provision should be made for public subsidy of catastrophic risks."

Cf. 3.13 FEDERAL CONTINGENT LOAN PROGRAM - #1 (29) - C. #489.  
8.4 NATIONAL STUDENT LOAN BANK - #1A (9-10) - C. #1428.

#18 (121)

cf. 8.4 DIRECT AID TO STUDENTS - #21 (49) for innovation which replaces existing system of public support of higher education in the form of institutional subsidies- Card # 1406.



STATE AND LOCAL FUND SOURCES

Alexander Mood recommends that "...all, or essentially all, tax support for higher education be parceled out each year as education grants to high school graduates and high school dropouts in a manner that would equalize their financial capability...to purchase advanced education."

#R37 (84)

REDISTRIBUTION OF TOTAL GOVERNMENTAL COSTS

The Carnegie Commission recommends that the total governmental costs from the states and localities be redistributed to the federal government. The Commission emphasizes that this recommendation should not result in a decline of state effort. Instead, the Commission suggests that "federal effort should increase faster than state effort, particularly in the area of supporting equality of opportunity."

#18 (5-6)

3.15

INCREASED FEDERAL ASSISTANCE (PROJECTED)

The Carnegie Commission projects that "Over the next several years, as veterans' assistance declines and strictly need-based entitlement funds increase, institutions may be aided substantially by the federal government in attempting to erase financial barriers to attendance."

#18 (58)

INDUCING COST-SAVING CHANGE -  
MANAGEMENT OF RESOURCES

3.15

"The Commission recommends that institutions of higher education seek to alter their budgetary procedures in such a way as to induce cost-saving change, giving special attention to the possibilities of permitting departments and schools to carry over from year to year significant proportions of unspent balances in their budgets and of permitting them to retain a portion of the budgetary savings resulting from innovation or investment in more efficient equipment."

#12 (109)

CAMPUS PERSONNEL CHOSEN TO COMMUNICATE WITH LAW ENFORCEMENT AGENTS

The Commission recommends that "Campus personnel chosen to communicate with law enforcement agencies should consist of persons who not only can achieve rapport, but also can effectively present the views of the campus community."

#8 (83)

# MANAGING HUMAN RESOURCES IN A PERIOD OF DECLINING GROWTH

"We (Carnegie Commission) recommend that campuses consider the following special policies for increasing their flexibility to adjust to a period of a declining rate of growth:

- Recapturing certain vacated positions for central reassignment, as recommended earlier
- Hiring temporary and part-time faculty members
- Providing that tenure does not necessarily apply only to the specific original assignment of specialized field and location
- Employing persons with subject-matter flexibility, as made easier in the training for the Doctor of Arts degree, and by encouraging persons to shift fields where this is desirable and possible
- Providing opportunities for early retirements on a full-time or part-time basis." \*

\*cf 3.22 Retirement Policies - #12 (115) - C. #668.

#12 (116-117)

GENERAL SATISFACTION WITH ACADEMIC LIFE

The Carnegie Commission members "challenge the mythology that academic life in America today is rife with a generalized discontent..." and urge "a new period of accelerated reform ...despite the high level of general satisfaction with academic life."

#13 (2)

EQUAL ACCESS

cf. 1.4 EQUAL OPPORTUNITY - #2 (4) for recommendation regarding conditions to be effected by 2000 - C. # 124.



NEED FOR MIDDLE MANAGERS

cf. 2.11 MIDDLE MANAGERS- DEVELOPMENT AND TRAINING - #12 (132) - C. #203 -  
for specific details regarding the more effective management of  
human resources by providing the development and training of  
middle managers

PROBLEM AREAS IN THE USE OF HUMAN RESOURCES NEEDING REFORM

cf. 1.0 PROBLEM AREAS NECESSITATING REFORM IN HIGHER EDUCATION - #13 (3-4)  
C. #22.

REFORMS IN THE USE OF HUMAN RESOURCES

cf. 1.4 STUDENT-ORIENTED REFORMS - #13 (4) - C. #150.



AFFIRMATIVE ACTION - OFFICER(S)

"To expedite achieving such goals (affirmative action written policies), every large college or university should appoint one or more affirmative action officers, whose policies should be guided by an appropriately constituted advisory committee or council. Small colleges may find it preferable to assign affirmative action responsibilities to an existing administrator or faculty member."

#20 (148)

AFFIRMATIVE ACTION - FEDERAL CONTRACTS

cf. 3.13 FEDERAL CONTRACTS AND AFFIRMATIVE ACTION - #20 (150) - C. #451 -for discussion of relationship between federal policies of contract awarding and affirmative action

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3.2

AFFIRMATIVE ACTION - WRITTEN POLICIES

"All colleges and universities covered by federal affirmative action requirements relating to employment should proceed to develop adequate written statements of affirmative action policy and should take active steps to see that the goals of the affirmative action policy are achieved within a reasonable period of time."

#20 (148)

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# ANTINEPOTISM RULES

"There should be no antinepotism rules applying to employment within the institution or campus as a whole, or within individual units, such as departments, schools, and institutes. However, a husband or wife should not be involved in a decision relating to his or her spouse."

#20 (149)



# EQUAL TREATMENT

"There should be equal treatment of men and women in all matters relating to salary, fringe benefits, and terms and conditions of employment."

#20 (149)

# REMOVAL OF BARRIERS TO ADVANCEMENT OF WOMEN

"We (Carnegie Commission) favor the removal of all improper barriers to the advancement of women; an active search for their talents and active measures to develop their talents; and special consideration of their problems and for their contributions."

#20 (3-4)

# WOMEN IN ACADEMIC LIFE

Factors of particular importance which affect the situation of women in academic life are:

"The roles for females presented to them (women) in early life.

The comparatively greater absence of 'role models' for women as they rise higher in academic life...

Prejudice and male monopolies."

#20 (3)

WOMEN IN ACADEMIC LIFE

Cf. specific categories for information on:

Women in Administration - C. #560 - #564, #569, #656

Women in Faculty positions - C. #569, #590 - #618, 656, 658, 659

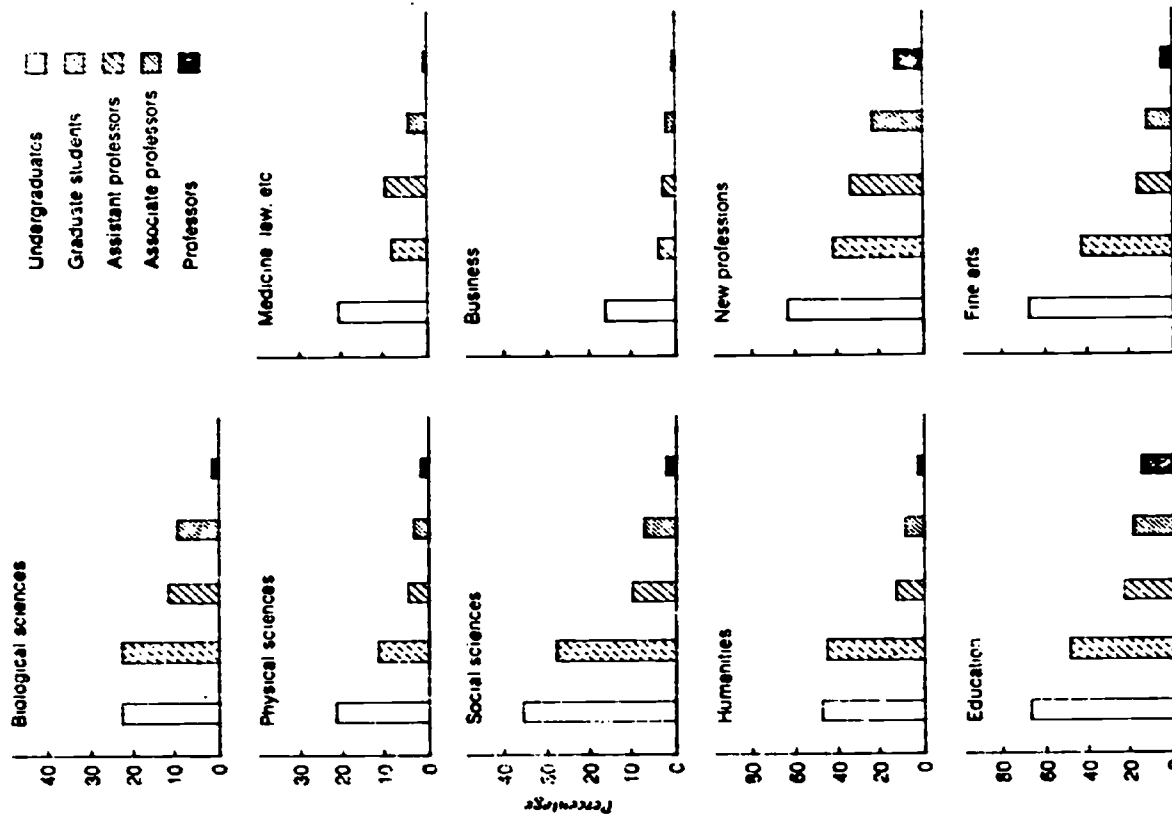
Women on Staffs - C. #656

Women as Students - C. #698 - #703

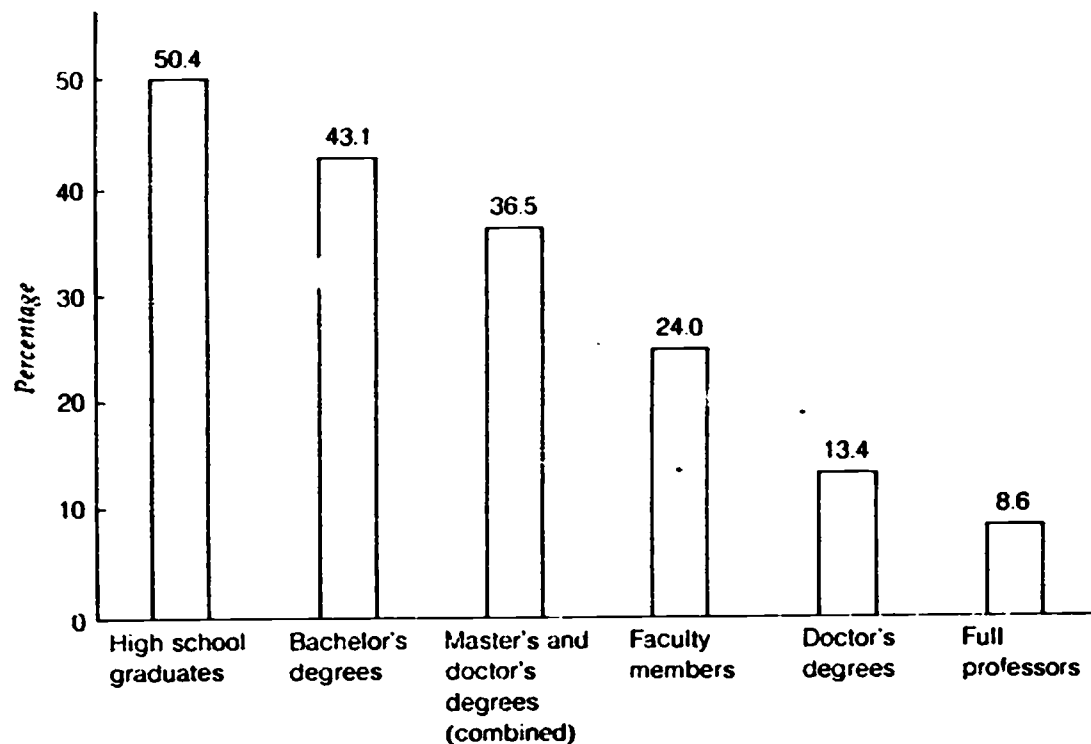
# WOMEN - PERCENTAGE AT SUCCESSIVE LEVELS OF HIGHER EDUCATION, BY FIELD

3.2

CHART 6 Women as a percentage of persons at successive levels of higher education, by field. Research Universities



SOURCE: Carnegie Commission Survey of Faculty and Student Opinion, 1960

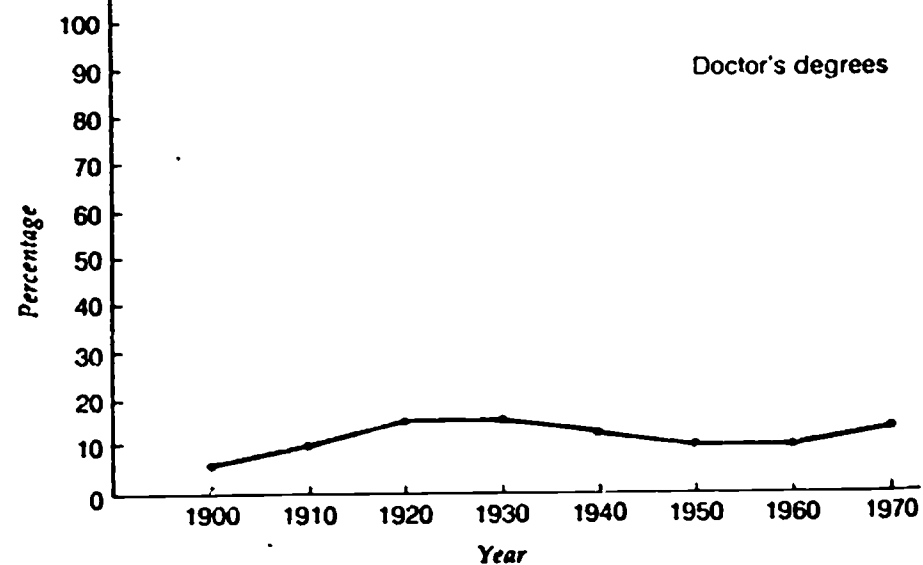
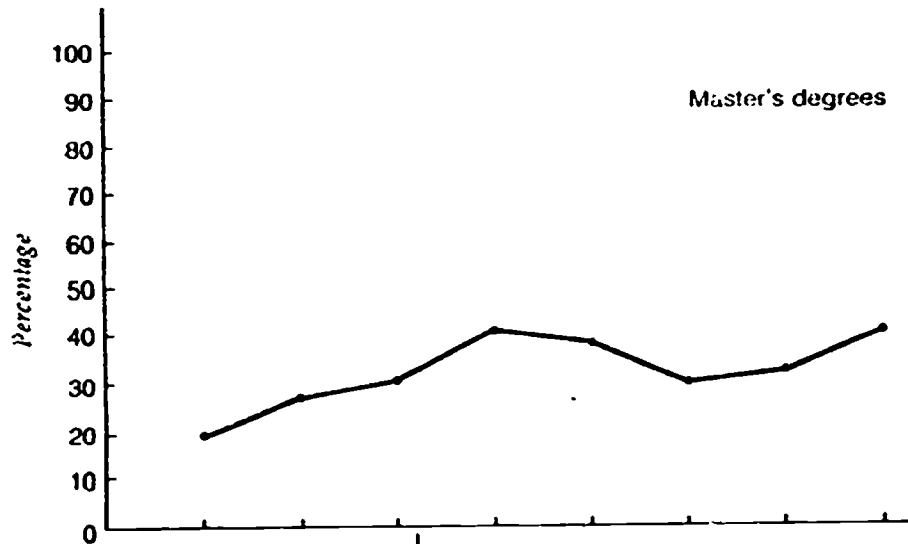
**WOMEN AS PERCENTAGE OF PERSONS AT SELECTED LEVELS IN EDUCATION****CHART 1** *Women as a percentage of persons at selected levels of advancement within the educational system. 1970*

SOURCES: U.S. Office of Education (1971 and 1972); and National Education Association (1971).

# WOMEN - NUMBER OF MASTER'S and DOCTOR'S DEGREES (1900-1970)

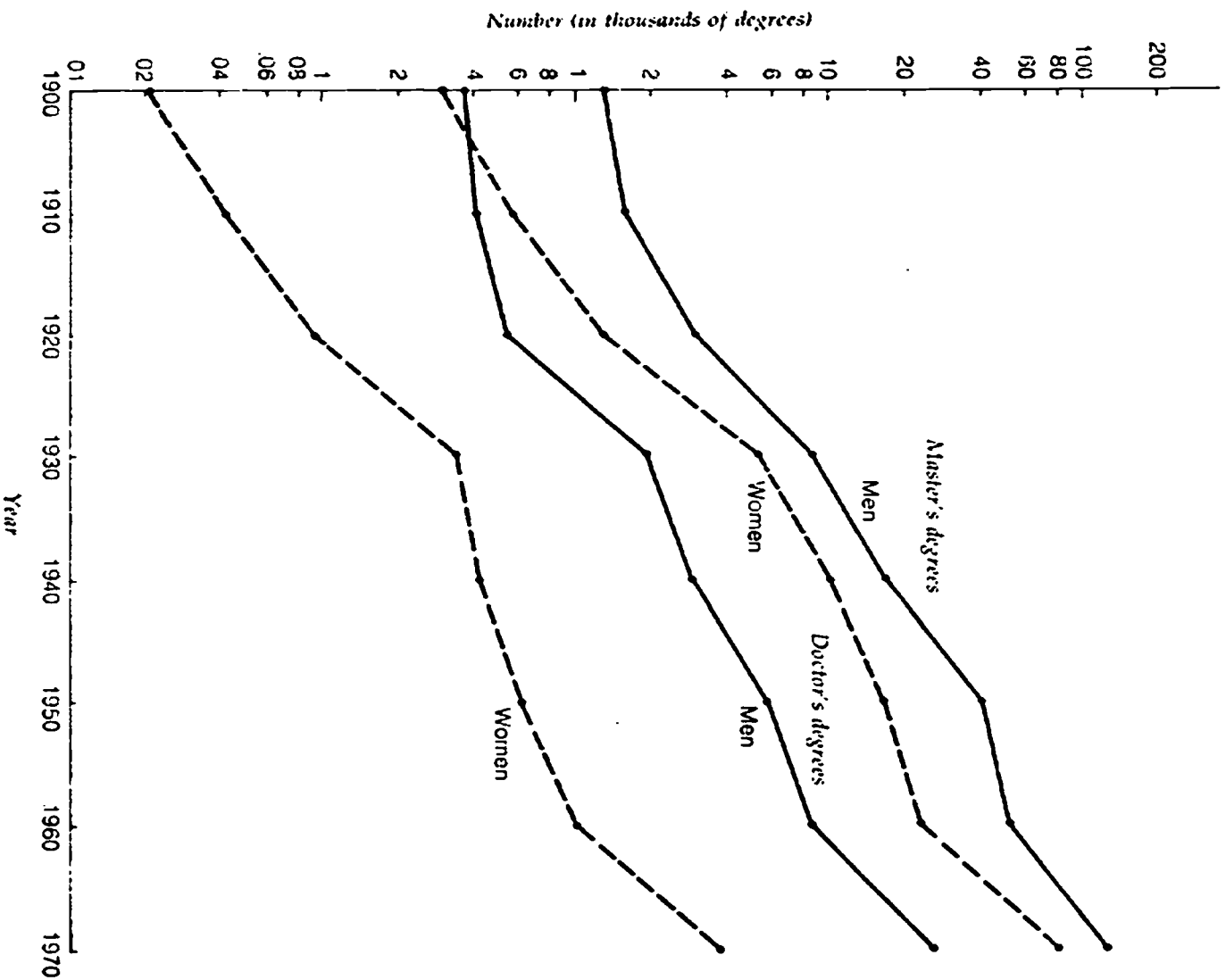
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**CHART 7**  
 Women as a  
 percentage of  
 recipients of  
 master's and  
 doctor's degrees,  
 1900-1970  
 (decade-to-decade  
 changes)



source: American Council on Education (1973, p. 1771).

CHART 3 Number of master's and doctor's degree recipients, by sex, 1900-1970 (decade-to-decade changes)



NUMBER OF MASTER'S AND DOCTOR'S DEGREE RECIPIENTS, BY SEX, 1900-1970



FUTURE EXPECTATIONS FOR WOMEN

"We (Carnegie Commission) hope and expect, instead, (of the backward swing which followed the granting of women's suffrage) a steady trend toward full equality of opportunity for women in academic life."

#20 (166)

# WOMEN IN HIGHER EDUCATION

"Historically, women in higher education have been and still often are disadvantaged as individuals compared to the level of their potential abilities:

- . in admission to college...
- . in acceptance into graduate school
- . in acceptance into and promotion within faculties (and administrative staffs)
- . in salaries paid..."

#20 (1)

# INTERNAL GRIEVANCE PROCEDURES

"The affirmative action program should also provide for an effective internal grievance procedure, if the institution does not already have one. An effective grievance procedure should result in minimizing litigation."

#20 (150)

ADMINISTRATORS

Cf. 2.11 ALL HEADINGS - for information on administrators as part of internal governance structure as well as a human resource Cards #189 - #204.

PRESIDENT - STAFF

"The Commission also recommends that the president of the institution be given adequate assistance from a highly capable staff."

#12 (132)

3.21

# COLLEGE ADMISSIONS OFFICERS

The Commission recommends that "College admissions officers should be appointed with great care because their work is intimately tied to the primary mission of the institution. If possible, they should have both faculty status and a prominent place in the administrative hierarchy."

#19 (49)

ADMINISTRATION - SOURCE OF ADMINISTRATORS

The Commission supports the "strong tradition in higher education that presidents, chancellors, deans, and other top administrative officials should be drawn from the ranks of the faculty...", declaring that such a tradition "is sound."

#12 (129)

## WOMEN ADMINISTRATORS

"Colleges and universities should take especially vigorous steps to overcome a pervasive problem of absence of women in top administrative positions. Women should be given opportunities by their departments to serve as department chairmen, because academic administrators are usually selected from among persons who have served ably as department chairmen. Most important is an administrative stance that is highly positive toward providing opportunities for women to rise in the administrative hierarchy. Also very important is the provision of management training opportunities for both men and women who have potential administrative ability but do not hold administrative positions."

#20 (151)



WOMEN IN ADMINISTRATION

"...they (women) are so rarely represented in top academic administrative positions as to be practically nonexistent in the upper echelons."

#20 (123)

### ADMINISTRATIVE STAFFS - WOMEN MEMBERS

**At the institutional level the Carnegie Commission favors "more efforts to place women on administrative staffs."**

**#20 (5)**

# **WOMEN AS PERCENTAGE OF ACADEMIC ADMINISTRATORS - FOUR-YEAR COLLEGES & UNIVERSITIES (1969-1970)**

<i>Administrative officers</i>	<i>Total (454 institutions)</i>	<i>Public colleges</i>	<i>Private colleges</i>	<i>Over 1,000 students</i>	<i>Under 10,000 students</i>	<i>Women's colleges</i>
<i>Presidents</i>	11	3	8	0	13	47
<i>Vice-presidents</i>	4	0	4	0	8	17
<i>Directors of development</i>	4	1	3	0	3	6
<i>Business managers</i>	9	1	9	2	4	32
<i>College physicians</i>	8	9	7	10	5	13
<i>Financial aid directors</i>	23	9	23	12	32	67
<i>Placement directors</i>	28	14	30	10	33	73
<i>Counseling directors</i>	19	9	20	5	32	67
<i>Deans of students</i>	23	9	18	5	26	81
<i>Head librarians</i>	35	22	37	8	62	61
<i>Academic deans</i>	18	8	14	17	15	62
<i>Associate or assistant academic deans</i>	17	11	16	12	20	44
<i>Counselors</i>	25	19	22	16	26	51

SOURCE: Oltman (1970, p. 16).

WOMEN - PROMOTION AND SALARIES ON ADMINISTRATIVE STAFFS

Cf. 3.2 WOMEN IN HIGHER EDUCATION - #20 (1) - C. #554.

NONACADEMIC ADMINISTRATORS - TRAINING

"There should likewise be emphasis on providing specialized training for nonacademic administrators."

cf. 2.11 MIDDLE MANAGERS - DEVELOPMENT AND TRAINING - #12 (132) - C.#203  
for additional information

#12 (132)

COSTS - ADMINISTRATIVE INEFFICIENCY

"The Commission recommends that all institutions of higher education, especially those with relatively high administrative costs, conduct analyses of these costs with a view to identifying functions or parts of the institution in which these costs may be excessive or in which there is evidence of administrative inefficiency."

#12 (134-135)

ADMINISTRATIVE INFLUENCE ON CHANGE

cf. 4.4 LEADERSHIP IN INNOVATION - #13 (62-63) for discussion of the role of academic administrators and the president in facilitating innovation - C. # 1096.

# ADMINISTRATIVE REFLECTION OF URBAN-IMPACT

The Carnegie Commission observes that "The ability of most urban-located universities and colleges to respond to urban needs is severely handicapped by failure to reflect this important function in their organizational structure."

The Commission recommends, therefore, "that large universities located in urban areas appoint a vice-president or vice-chancellor for urban affairs who would be concerned with the university-urban interface in terms of the urban impact of the university's educational, service, research, and corporate functions."

Of. 2.1 URBAN AFFAIRS ADVISORY COUNCIL - #14 (93) - C. # 184.

#14 (93)



3.21/3.22

## RECRUITMENT OF WOMEN AND MINORITIES

The Carnegie Commission recommends "The recruitment into faculty and administrative positions of more women and more members of minority groups."

The Commission explains that "women are now in such positions to about one-half or more of reasonable expectations, and members of minority groups to about one-third."

#22 (37)

3.21/3.22

## COOPERATION BETWEEN SCHOOL AND COLLEGE TEACHERS AND ADMINISTRATORS

The Carnegie Commission recommends that "Though often different in temperament, training, and style, school and college teachers and administrators must work together to reduce many of the present undesirable discontinuities in the relationships between school and college."

#19 (108)

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3.22/3.24

USE OF FACULTY AND STUDENTS FOR COMMUNITY SERVICE

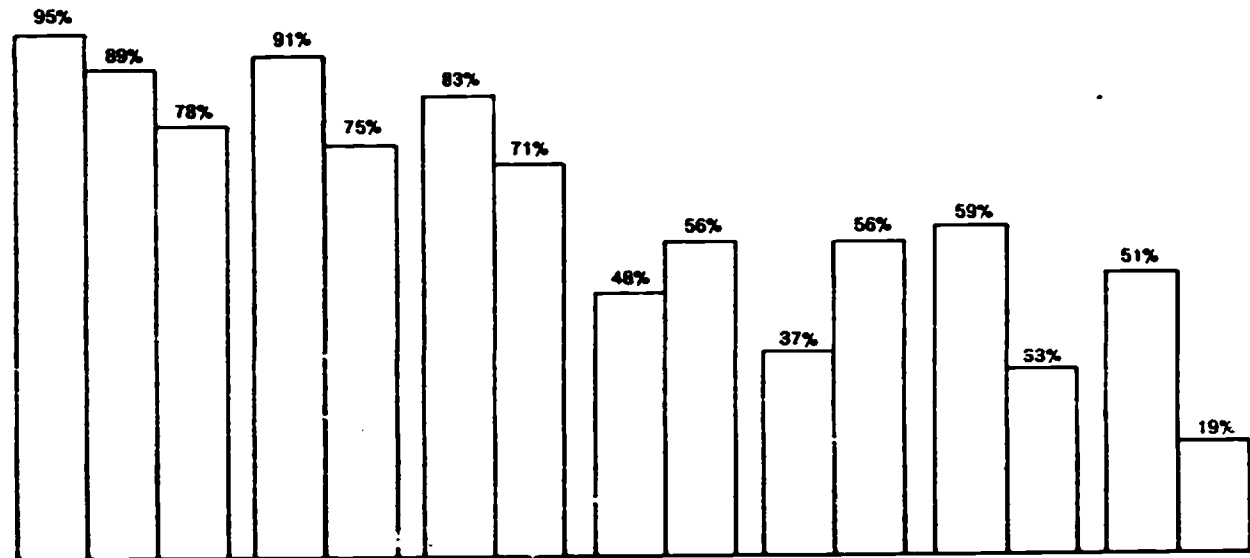
Cf. 1.1 COMMUNITY SERVICE - QUASI-UNIVERSITY AGENCIES - #14 (77)  
Card #40.

3.22/3.24

# STUDENT AND FACULTY VIEWPOINTS ON CHANGES

CHART 2 Agreements and disagreements on changes desired — student and faculty viewpoints

Majority of students and of faculty members			Majority of faculty members and minority of students		Majority of students and minority of faculty members	
<i>Teaching primary criterion in faculty promotions</i>			<i>Requirement of community service</i>		<i>All grades abolished</i>	
Under-graduate students	Graduate students	Faculty	Under-graduate students	Faculty	Under-graduate students	Faculty
<i>Course work more relevant to contemporary life and problems</i>			<i>More attention to emotional growth of students</i>		<i>All courses elective</i>	
Under-graduate students	Graduate students	Faculty	Under-graduate students	Faculty	Under-graduate students	Faculty
<i>More emphasis on broad liberal education</i>			<i>Requirement of community service</i>		<i>All grades abolished</i>	
Under-graduate students	Graduate students	Faculty	Under-graduate students	Faculty	Under-graduate students	Faculty



CHANGES DESIRED BY STUDENTS AND FACULTY

Despite the high level of general satisfaction with academic life, the Carnegie Commission observed that some changes which are strongly desired by both students and faculty members include:

- " Improvement of teaching effectiveness and of the rewards for good teaching
- . Achievement of more 'relevance' in the curriculum
- . Provision of more creative opportunities for students
- . Greater attention to the 'emotional growth' of students"

cf. 3.22/3.24 STUDENT AND FACULTY VIEWPOINTS ON CHANGES - #13 (14)-  
C. #572.

#13 (2)

**WOMEN - PERCENTAGE OF UNDERGRADUATE STUDENTS, GRADUATE, STUDENTS, AND FACULTY**

**TABLE 5** *Women as a percentage of undergraduate students, graduate students, and faculty members, by type and control of institution, 1969*

Type of institution	Undergraduates		Graduates		Faculty	
	Public	Private	Public	Private	Public	Private
<i>Research universities I</i>	41.7	27.4	27.4	23.5	12.9	10.9
<i>Research universities II</i>	30.5	44.2	22.6	17.2	12.8	13.2
<i>Doctoral-granting universities I and II</i>	44.2	39.1	22.9	22.1	13.1	19.9
<i>Comprehensive universities and colleges I</i>	54.4	43.5	33.8	34.0	24.8	16.1
<i>Comprehensive universities and colleges II</i>	63.2	57.4	29.6	58.3	23.5	29.6
<i>Liberal arts colleges I</i>	•	60.3	•	55.3	•	22.6
<i>Liberal arts colleges II</i>	53.3	59.0	•	20.2	19.5	33.2
<i>Two-year colleges</i>	41.2	41.5	•	•	23.5	40.1

\*Percentages not reported because number of respondents was small or zero.

SOURCE: Carnegie Commission Survey of Faculty and Student Opinion, 1969.

FACULTY MEMBERS

Cf. 2.12 ALL HEADINGS - for information relative to faculty members as part of governance structure as well as human resources - Cards # 205 - #221.

- 576 -

3.22

NEED FOR GENERALISTS

cf. 3.25 USE OF GENERALISTS ON FACULTIES - #R37 (30) - C. #858.



# FACULTY AGREEMENT WITH REFORMS BY AGE

3.22

	Percentage who "strongly agree" or "agree with reservations"*				
	All ages	51 or older	41-50	31-40	30 or younger
<i>"Undergraduate education in America would be improved if:"</i>					
<i>"All courses were elective"</i>	19	15	18	21	24
<i>"Grades were abolished"</i>	33	25	30	35	44
<i>"Coursework were more relevant to contemporary life and problems"</i>	75	72	73	75	81
<i>"More attention were paid to the emotional growth of students"</i>	71	74	73	68	70
<i>"Students were required to spend a year in community service at home or abroad"</i>	56	54	56	57	56
<i>"There were less emphasis on specialized training and more on broad liberal education"</i>	56	57	55	56	57
<i>"Teaching effectiveness, not publi- cations, should be the primary criterion for promotion of faculty."</i>	78	83	75	74	81

\* Other possible responses: "disagree with reservations," "strongly disagree."

# **FACULTY AGREEMENT WITH REFORMS, BY FIELD OF STUDY - #1**

3.22

Percentage who "strongly agree" or  
"agree with reservations"

	All fields	Social sciences	Humani- ties	Fine arts	Physical sciences
<i>"Undergraduate education in America would be improved if:"</i>					
<i>"All courses were elective"</i>	19	28	23	28	14
<i>"Grades were abolished"</i>	33	35	38	47	20
<i>"Coursework were more relevant to contemporary life and problems"</i>	75	75	66	86	66
<i>"More attention were paid to the emotional growth of students"</i>	71	67	70	80	60
<i>"Students were required to spend a year in community service at home or abroad"</i>	56	63	60	62	42
<i>"There were less emphasis on specialized training and more on broad liberal education"</i>	56	68	80	54	46
<i>"Teaching effectiveness, not publications, should be the primary criterion for promotion of faculty."</i>	78	65	81	90	65

\* Other possible responses: "disagree with reservations," "strongly disagree."

# **FACULTY AGREEMENT WITH REFORMS, BY FIELD OF STUDY - #2**

3.22

	Percentage who "strongly agree" or "agree with reservations"						
	Biological sciences	Education/ Social welfare	Engi- neering	Health	Law	Business	Other professions
<i>"Undergraduate education in America would be improved if:"</i>							
<i>"All courses were elective"</i>	19	20	7	15	23	12	11
<i>"Grades were abolished"</i>	25	43	16	33	25	27	25
<i>"Coursework were more relevant to contemporary life and problems"</i>	73	87	68	74	62	83	81
<i>"More attention were paid to the emotional growth of students"</i>	65	80	67	78	50	72	70
<i>"Students were required to spend a year in community service at home or abroad"</i>	50	61	46	55	44	52	57
<i>"There were less emphasis on specialized training and more on broad liberal education"</i>	52	44	30	52	70	42	36
<i>"Teaching effectiveness, not publications, should be the primary criterion for promotion of faculty."</i>	62	92	74	76	58	84	73

\* Other possible responses: "disagree with reservations," "strongly disagree."

DOCTORATES - FACULTY MEMBERS - PERCENTAGES

"The Carnegie Commission Survey of Faculty and Student Opinion, 1969, showed that about 83 percent of the male faculty members and 47 percent of the female faculty members in Research Universities I had doctor's degrees. In other groups of universities smaller percentages of either sex had these advanced degrees."

#20 (113-114)

EFFECTS ON FACULTY OF DECLINING RATE OF GROWTH

"As the rate of growth in enrollment declines, the need for additions to faculty will also taper off. Turnover of faculty members will undoubtedly decline as new hiring falls off, and in the 1980s additional faculty members will be needed only to replace those who retire or who die before retirement."

#12 (111)

3.22

RIISING AGE LEVEL OF FACULTY MEMBERS

The Carnegie Commission warns that the effects of desired change will be thwarted by "the rising age level of faculty members (the median age will rise by about one-half a year each year from 1970 to 1990) as fewer new hires are made and older persons are protected by tenure and seniority practices."

#22 (44)

FACULTY SHIFT IN FIELD OF SPECIALIZATION - IN-SERVICE TRAINING

"...universities and colleges may have to devise ways to encourage their faculty members, on a voluntary basis, to engage in retraining to facilitate such shifts (to neighboring or related fields)."

#12 (113)

### REDUCED NEED FOR ADDITIONAL FACULTY

Cf. 7.3/7.4 ADVANTAGES OF TECHNOLOGY FOR FACULTY - #11 (3)-  
C. # 1268.



INSTRUCTIONAL STAFF

Cf. 4.1 INSTRUCTIONAL STAFF FOR NEW TECHNOLOGY - #11 (70-74) -  
C. #929.

ACADEMIC ATTITUDES

**TABLE 4**  
**Academic**  
**attitudes on**  
**use and**  
**advocacy of**  
**violence, on**  
**disruption of**  
**campus, and on**  
**source of social**  
**change**

Position	Faculty members	Graduate students	Undergraduate students
<i>"In the U.S.A. today there can be no justification for using violence to achieve political goals." (Percentage responding "disagree")</i>	27	*	25
<i>"Faculty members should be free on campus to advocate violent resistance to public authority." (Percentage responding "agree")</i>	22	23	32
<i>"Students who disrupt the functioning of a college should be expelled or suspended." (Percentage responding "disagree")</i>	20	27	39
<i>"Meaningful social change cannot be achieved through traditional American politics." (Percentage responding "agree")</i>	33	38	55

\* Question not asked.

SOURCE: Carnegie Commission Survey of Faculty and Student Opinion.

# FACULTY ATTITUDES ABOUT THE USE OF STUDENT EVALUATIONS FOR FACULTY PROMOTIONS

	All institutions	Doctoral-granting institutions			Limited emphasis on doctoral
		Heavy emphasis on research	Moderate emphasis on research	Moderate emphasis on doctoral	
<i>"Faculty promotions should be based in part on formal student evaluations of their teachers."</i>					
Percentage who "strongly agree"	14	13	13	14	13
Percentage who "agree with reservations"	41	40	43	43	45
Percentage who "disagree with reservations"	30	30	30	27	29
Percentage who "strongly disagree"	15	17	14	16	13
TOTAL	100	100	100	100	100

FACULTY ATTITUDES ABOUT POLITICAL ISSUES

"We (Carnegie Commission) note, however, that about one-third of faculty members now seem to favor the taking of stands on political issues by college and university faculties. Direct institutional political action in our opinion, nevertheless, should be rejected . . ."

#17 (44)

TABLE 5  
Distribution of  
faculty on  
"radicalism  
scale" - subfield  
classifications

Classification	Percent of faculty members in scales 1 and 2
Age	
60 and over	6
Under 30	17
Field	
Social sciences	20
Humanities	17
Fine arts	14
Education	10
Physical sciences	9
Biological sciences	6
Medicine	6
Law	6
Business	5
Agriculture	3
Social psychology	39
Social work	30
Sociology	25
Political science	24
Philosophy	24
Art	18
History	17
Economics	15
Music	9
Chemistry	8
Civil engineering	5
Physical education	4
Botany	3
Home economics	2

SOURCE: Carnegie Commission Survey of Faculty and Student Opinion. "Radicalism Scale" - with scale 1 (highest) to 5 (lowest) constructed by Ladd Lipert from answers to four statements and questions: "In the U.S.A. today there can be no justification for using violence to achieve political goals"; "Meaningful social change cannot be achieved through traditional American politics"; "Most American colleges and universities are racist whether they mean it or not"; and - "What do you think of the emergence of radical student activism in recent years?" These four questions are not the same set of questions as in Table 4 and in the text, but the general ranking of classifications would almost certainly be substantially the same if they were.

# FACULTY HIRING POLICIES - AFFIRMATIVE ACTION

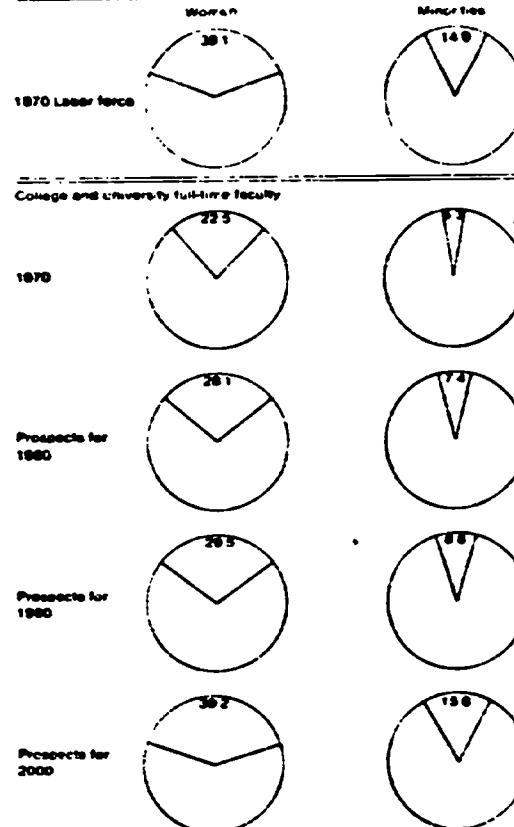
"Departments and schools should actively recruit women and maintain records that indicate the steps they have taken in this recruitment program. Efforts should be made to recruit women who are members of minority groups through recruitment plans especially designed to seek them out. Serious consideration should be given to appointing qualified women lecturers to regular faculty positions."

#20 (148)

# ABSORPTION OF WOMEN AND MINORITIES INTO FACULTIES

3.22

CHART 5 Absorption of women and minorities into faculties



SOURCE See Technical Note B

# HIRING MINORITIES AND WOMEN

The Carnegie Commission recommends that members of minority group and women should be given special consideration in hiring when such persons have the training and the background to perform competently the teaching and research and other assignments of the university or college, and when such special consideration is essential to the creation of a more effective total academic environment. The Commission, however, is "opposed to quotas and to a lottery system."

#17 (32-33)



## MINORITIES AND WOMEN FOR FACULTY "POOL" OF APPLICANTS

The Carnegie Commission recommends that "Special efforts should be made to find qualified members of minority groups and women for inclusion in the 'pool' of candidates for consideration when faculty appointments are being made; and such persons should be given special consideration in employment for faculty positions, where their empooymnt will lead to the creation of a more effective total academic environment for the entire student group that will be affected."

#17 (38)

MINORITIES ON FACULTIES - PERCENTAGES

". . .the ratio for members of minority groups is about one-third (the extent of their participation in the general labor force)."

Of. 3.22 WOMEN ON FACULTIES - PERCENTAGES - #20 (5) - C. #601

#20 (5)

# RACIAL CHARACTERISTICS OF FACULTY MEMBERS (1969)

3.22

Type of institution and sex	Total		White	Black	Other
	Number (000)*	Percent			
<b>Public</b>					
<i>Total men</i>	217.6	100.0	95.7	2.6	1.7
<i>Total women</i>	49.9	100.0	91.7	6.3	2.0
<i>Research universities I and II</i>					
<i>Men</i>	81.9	100.0	97.3	0.4	2.3
<i>Women</i>	12.1	100.0	97.0	1.3	1.7
<i>Doctoral-granting universities I and II</i>					
<i>Men</i>	25.9	100.0	97.6	0.3	2.1
<i>Women</i>	3.9	100.0	98.0	0.7	1.4
<i>Comprehensive universities and colleges</i>					
<i>Men</i>	64.9	100.0	91.5	6.9	1.5
<i>Women</i>	21.0	100.0	85.3	12.8	1.9
<i>Liberal arts colleges</i>					
<i>Men</i>	1.5	100.0	76.7	22.8	0.5
<i>Women</i>	0.4	100.0	63.8	28.9	7.2
<i>Two-year colleges</i>					
<i>Men</i>	40.9	100.0	98.7	0.7	0.6
<i>Women</i>	12.5	100.0	96.0	1.5	2.5

WOMEN IN ACADEMIC LIFE - CONCERN IN THE '70's

"Concern for the situation of women in academic life has greatly intensified in the 1970s with a decline of the birthrate, a new concern for social justice...the rise of the women's movement, and the development of new attitudes about sexual roles."

#20 (3)

"The situation for women on college and university faculties has deteriorated over recent decades, beginning with the 1930's." This deterioration has been accelerated by the Depression which emphasized the employment of men; by the expansion of traditionally male fields of science, engineering, and business administration; the increased birthrate following World War II; and difficulty in obtaining domestic help. An additional factor has been the attraction of men to the increased academic salaries.

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# REPRESENTATION OF WOMEN ON FACULTY

"Every department and school in an academic institution should establish, in consultation with the administration of the college or university, a goal relating to the relative representation of women on its regular faculty (assistant professor to full professor)...Special consideration should be given to women who meet the institution's standards of competence in terms of both realized and potential ability, even though they may have had a less substantial record of achievement in terms of research and publication than men who are being considered for the same positions. Standards of competence...should be made more explicit."

#20 (148-149)

WOMEN FACULTY MEMBERS - PERCENTAGE OF TOTAL FACULTY

Although women represent about 46% of all undergraduates and about 37% of all graduate students in higher education, "they represented only 27 percent of college faculty members in 1971-72 (National Education Association, 197%)."

The Commission continues by observing that "there is a tendency for ratios of women to men to be much smaller in universities, and especially in highly research-oriented universities, than in other types of institutions."

#20 (109)

WOMEN ON FACULTIES - PERCENTAGES - PROJECTED

"It will take until about the year 2000, under reasonable assumptions, before women are likely to be included in the national professoriate in approximately the same proportions as they are in the total labor force...

cf. WOMEN ON FACULTIES - PERCENTAGES - #20 (5) for present conditions - Card #601.



3.22

WOMEN ON FACULTIES - PERCENTAGES

"Women are now found on faculties to something over one-half the extent of their participation in the general labor force..."

cf. 3.22 MINORITIES ON FACULTIES - PERCENTAGES - #20 (5) - C. #594.

3.22 WOMEN ON FACULTIES - PERCENTAGES - PROJECTED - #20 (6) - C. #600-  
for conditions in the year 2000.

#20 (5)

RECRUITMENT - DISCRIMINATION AGAINST WOMEN

"The charge is frequently made by academic women, with considerable justification, that the recruitment methods used by departments and schools tend to favor men."

#20 (119)

**"Perhaps the most surprising aspect of the status of women as faculty members, however, is the evidence that both the relative representation and status of women have deteriorated over the last 50 years."**

cf. 3.22 DOCTORATES - FACULTY PERCENTAGES - # 20 (113) for explanation of possible reason for deterioration of women's status - C. # 580.

**#20 (111-112)**

# WOMEN AS A PERCENTAGE OF FACULTY MEMBERS IN FOUR-YEAR COLLEGES AND UNIVERSITIES

**TABLE 7**  
 women as a  
 percentage of  
 faculty members  
 in four-year  
 colleges and  
 universities

Faculty rank	1959-60	1965-66	1971-72
All ranks	19.1	18.4	19.0
Professor	9.9	8.7	8.6
Associate professor	17.5	15.1	14.6
Assistant professor	21.7	19.4	20.7
Instructor	29.3	32.5	39.4

SOURCE: National Education Association (1972, p. 13).

Data used in projection  
and year

Women are 29 percent of new hires

Women are 30 percent of new hires

Women as a percent-  
age of faculty  
members in 1969

5 10 15 20 25 30 5 10 15 20 25 30

Carter

1975 9.4 12.9 16.5 20.0 23.5 27.1 12.3 15.8 19.4 22.9 26.5 30.0

1980 11.0 14.0 17.0 20.0 23.0 26.0 14.9 18.0 21.0 24.0 27.0 30.0

1985 10.5 13.6 16.8 20.0 23.2 26.4 14.1 17.3 20.5 23.6 26.8 30.0

1990 10.6 13.7 16.9 20.0 23.1 26.3 14.4 17.5 20.6 23.7 26. 30.0

Carnegie

1975 9.1 12.8 16.4 20.0 23.6 27.2 11.9 15.5 19.1 22.8 26.4 30.0

1980 10.8 13.9 16.9 20.0 23.1 26.1 14.7 17.8 20.8 23.9 26.9 30.0

1985 10.7 13.8 16.9 20.0 23.1 26.2 14.6 17.7 20.7 23.8 26.9 30.0

1990 11.4 14.3 17.1 20.0 22.9 25.7 15.7 18.5 21.4 24.3 27.1 30.0

Constant two percent

1975 9.7 13.1 16.6 20.0 23.4 26.9 12.9 16.3 19.7 23.1 26.6 30.0

1980 11.5 14.4 17.2 20.0 22.8 25.6 15.9 18.7 21.5 24.4 27.2 30.0

1985 11.4 14.3 17.1 20.0 22.9 25.7 15.6 18.5 21.4 24.3 27.1 30.0

1990 11.6 14.4 17.2 20.0 22.8 25.6 16.1 18.9 21.6 24.4 27.2 30.0

Misslach

1975 9.1 12.7 16.4 20.0 23.6 27.3 11.8 15.4 19.1 22.7 26.4 30.0

1980 11.1 14.1 17.0 20.0 23.0 25.9 15.2 18.2 21.1 24.1 27.0 30.0

1985 12.2 14.8 17.4 20.0 22.6 25.2 17.1 19.7 22.2 24.8 27.4 30.0

1990 13.6 15.7 17.9 20.0 22.1 24.3 19.3 21.4 23.6 25.7 27.9 30.0

Rates of Retirement and Death

Carter (1972)

1970 1.61%

1975 1.36

1980 1.28

1985 1.37

1990 1.87

Carnegie (1969)

-1973 1.0%

1974-1978 1.3

1979-1983 1.8

1984-1988 2.7

1989-1990 3.1

Misslach

1970-1978 1%

1979-1980 3

1981-1990 5

TABLE C-13 Women as a percentage of faculty members in universities in selected future years, on the basis of varying assumptions about the percentage of women among "new hires" and among faculty members in 1969

TABLE C-13 Women as a percentage of faculty members in universities in selected future years, on the basis of varying assumptions about the percentage of women among "new hires" and among faculty members in 1969

Data used in projection  
and year

Women are 50 percent of new hires

Women are 100 percent of new hires

Women as a percent-  
age of faculty  
members in 1969

Currier

1975

1980

1985

1990

Carnegie

1975

1980

1985

1990

Constant two percent

1975

1980

1985

1990

Maslach

1975

1980

1985

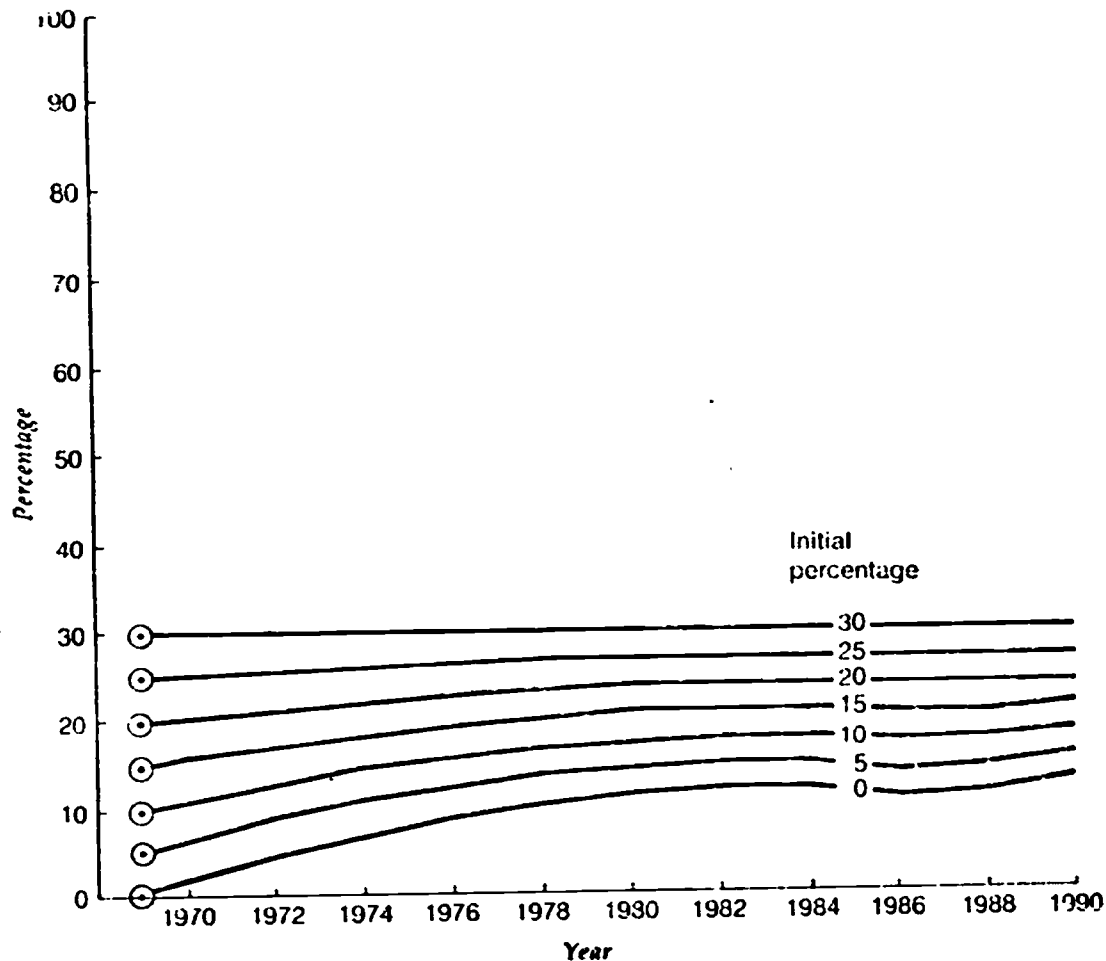
1990

	5	10	15	20	25	30	5	10	15	20	25	30
Currier												
1975	18.2	21.7	25.2	28.8	32.3	35.8	32.8	36.3	39.9	43.4	46.9	50.5
1980	22.9	25.9	28.9	31.9	34.9	38.0	42.8	45.8	48.8	51.8	54.8	57.9
1985	21.4	24.6	27.8	30.9	34.1	37.3	39.7	42.8	46.0	49.2	52.4	55.5
1990	21.8	25.0	28.1	31.2	34.4	37.5	40.5	43.7	46.8	49.9	53.1	56.2
Carnegie												
1975	17.4	21.0	24.6	28.3	31.9	35.5	31.2	34.8	38.4	42.1	45.7	49.3
1980	22.5	25.6	28.6	31.7	34.7	37.8	42.0	45.1	48.1	51.2	54.2	57.3
1985	22.2	25.3	28.4	31.5	34.6	37.7	41.4	44.4	47.5	50.6	53.7	56.8
1990	24.2	27.1	30.0	32.8	35.7	38.5	45.6	48.5	51.3	54.2	57.1	59.9
Constant two percent												
1975	19.1	22.6	26.0	29.4	32.9	36.3	34.9	38.3	41.7	45.1	48.6	52.0
1980	24.6	27.5	30.3	33.1	35.9	38.7	46.5	49.3	52.1	54.9	57.7	60.6
1985	24.2	27.0	29.9	32.8	35.6	38.5	45.4	48.3	51.2	54.0	56.9	59.8
1990	24.9	27.7	30.5	33.3	36.1	38.9	47.1	49.9	52.7	55.5	58.2	61.0
Maslach												
1975	17.2	20.8	24.5	28.1	31.8	35.4	30.8	34.4	38.1	41.7	45.3	49.0
1980	23.3	26.3	29.3	32.2	35.2	38.2	43.7	46.7	49.7	52.6	55.6	58.5
1985	26.7	29.3	31.9	34.5	37.1	39.7	50.9	53.5	56.1	58.6	61.2	63.8
1990	30.7	32.8	35.0	37.1	39.3	41.4	59.3	61.4	63.5	65.7	67.8	70.0

# WOMEN AS A PERCENTAGE OF FACULTY MEMBERS - PROJECTED 1970-90

3.22

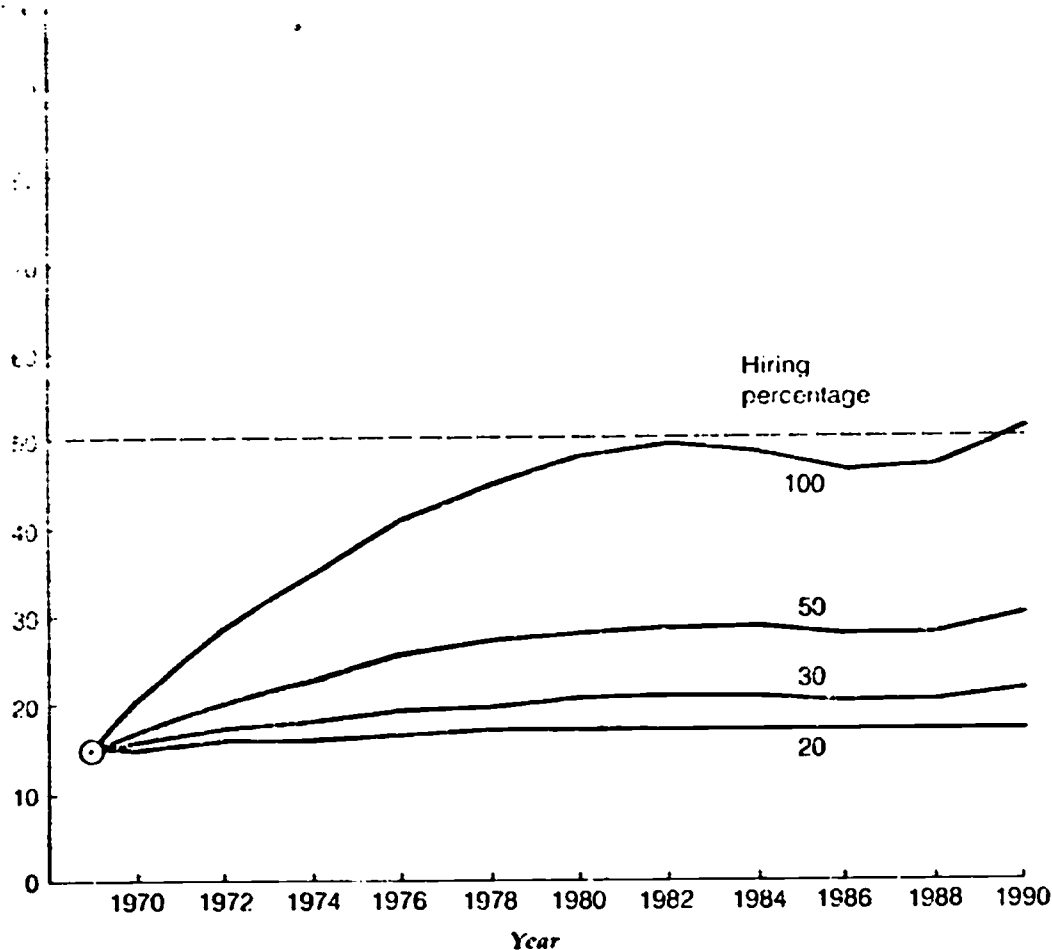
Chart C-1 Women as a percentage of faculty members, projected 1970-1990 in universities; constant hiring 30 percent women. Comparison of different initial percentages in 1969.



# WOMEN AS A PERCENTAGE OF FACULTY - PROJECTED (1970-90) - UNIVERSITIES

3.22

PART C-2 Women as a percentage of faculty members, projected, 1970 to 1990, in universities; initial percentage in 1969 equal to 14.67. Comparison of different rates of hiring women.





WOMEN - FACULTY LEVEL

At the faculty level the Carnegie Commission recommends that "special efforts to recruit women into the pool from which appointees are selected" be made. The Commission encourages special consideration to the role of women as models and counselors for women students. The Commission also recommends policies which will assist women "to find a fuller place in the academic world," e.g. part -time appointments, childbearing and child-rearing leaves, and the reduction of the severity of antinepotism rules.

#20 (4)

WOMEN FACULTY MEMBERS - LECTURERS

"Women also make up a sizable proportion of lecturers, and there have been accusations in many institutions that an important type of discrimination is the tendency to keep women in this "nonladder" and nontenure status."

#20 (110)

DISCRIMINATION AGAINST WOMEN IN STATUS AND COMPENSATION

The Carnegie Commission refers to the Astin-Bayer and the Scott findings which "strongly suggest that there is discrimination against women in status and compensation in higher education. In virtually all public institutions and in many private institutions that have formal salary structures, the discrimination does not take the form of paying a woman a lower salary than a man when she is in the same step of the same rank, but it does take the form of not moving her up through the steps and ranks as quickly."

#20 (119)

DISCRIMINATION AGAINST WOMEN - ADVANCEMENT

"We (Carnegie Commission) would suggest that departments tend to take advantage of the fact that women have less bargaining power than men. . . . Now under pressure from the federal government and from women's committees, institutions are developing affirmative action policies that embody intensive scrutiny of departmental procedures, but progress in developing and implementing these policies is frequently very slow."

\* Cf. # 615 for reasons suggested by Commission for the fact that women have less bargaining power than men

#20 (121-123)

WOMEN - DEPARTMENT CHAIRMEN

cf. 3.21 WOMEN ADMINISTRATORS - #20 (151) for recommendation that women should be given opportunities to serve as department chairmen in preparation for other top administrative positions. Card #560.

WOMEN IN SCIENCE

The Carnegie Commission acknowledges the overlap which occurs in the same period of life for women of years of high intellectual fertility and high childbearing fertility. The Commission considers this overlap, along with less mathematical training in high school, as a possible explanation for the lower present proportion of women in the sciences.

#20 (2)

WOMEN - LESS BARGAINING POWER

The Commission suggests that women have less bargaining power than men for three reasons: mobility constraints which limit a woman to the location of her husband's work, the woman's status as secondary earner in the family, and the more subtle influence of avoiding a salary in excess of her husband's which some women feel.

Cf. #612 for additional discussion of restraints against women's advancement

#20 (121 -123)

WOMEN - PROMOTION AND SALARIES WITHIN FACULTIES

Cf. 3.2 WOMEN IN HIGHER EDUCATION - #20 (1) - C. #554.



DIFFERENCES BETWEEN ACTUAL AND PREDICTED AVERAGE SALARIES - 1969 - FACULTY

**TABLE 8** Differences between actual average salaries of male and female faculty members and average salaries predicted on the basis of the equation for the opposite sex, by type of institution, 1969

<i>Institutional type</i>	<i>Number of men*</i>	<i>Average difference for men</i>	<i>Number of women</i>	<i>Average difference for women</i>
<i>Research Universities I</i>	3,760	+\$2.729	2,649	-\$2.009
<i>Research Universities II and other Doctoral-Granting Universities I and II</i>	3,151	+ 2.303	2,551	- 1.015
<i>Comprehensive Universities and Colleges</i>	985	+ 1.066	1,066	- 358
<i>Liberal Arts Colleges I</i>	605	+ 1.635	714	- 1.025
<i>Liberal Arts Colleges II and two-year colleges</i>	831	+ 1.886	1,342	- 2.002
<b>TOTAL</b>	<b>9,332</b>	<b>+\$2.264</b>	<b>8,322</b>	<b>-\$1.407</b>

\*25 percent random sample of male faculty in survey.

SOURCE: Derived from analysis of Carnegie Commission Survey of Faculty and Student Opinion, 1969.

**MEDIAN SALARIES OF FACULTY MEMBERS BY SEX AND PERCENTAGE OF FACULTY MEMBERS WHO WERE WOMEN (1971-72)**

3.22

Type, control, and size of institution	Median salary			Percentage of faculty who were women
	Men	Women	Difference	
All four-year institutions	\$13,359	\$11,026	\$2,333	19.0
Public universities				
Enroll 10,000 or more	14,342	11,519	2,823	15.6
Enroll 5,000-9,999	13,112	11,140	1,972	19.7
Enroll less than 5,000	12,887	10,960	1,927	23.5
Nonpublic universities				
Enroll 10,000 or more	14,944	11,367	3,577	13.6
Enroll less than 5,000	13,127	10,787	2,340	15.6
Public colleges	12,648	11,421	1,227	22.5
Nonpublic colleges				
Enroll 1,000 or more	11,841	10,283	1,558	21.6
Enroll 500-999	10,773	9,580	1,193	29.1
Enroll less than 500	10,388	8,925	1,463	29.6
Two-year institutions				
Public two-year institutions	12,337	11,118	1,219	31.2
Enroll 2,000 or more	13,668	12,397	1,271	31.3
Enroll 1,000-1,999	10,966	10,047	919	31.5
Enroll fewer than 1,000	10,450	9,452	998	30.4
Private two-year institutions	n.a.	n.a.		41.1

SOURCE: National Education Association (1972, pp. 11 and 62). The median salary differences between men and women tend to be greatest in large public and private universities.

#20 (191)

FACULTY RESPONSIBILITIES

The Carnegie Commission recommends that "Codes of Teaching Responsibility" should be adopted to guide faculty members in their conduct and to inform students of what they can expect."

#22(28)

ACADEMIC FREEDOM

The Carnegie Commission recommends that "The principles of academic freedom for faculty members should be preserved where they are now effective and extended into areas where they do not now prevail, and the essential institutional independence of the campus should be fully protected by society to assure the continuance of the possibilities of critical evaluation of society by individual faculty members and students."

#17 (51)

# FACULTY RATINGS OF THEIR MOST IMPORTANT ACADEMIC ACTIVITY

3.22

	Doctoral-granting institutions				
All insti- tutions	Heavy emphasis on research	Moderate emphasis on research	Moderate emphasis on doctoral	Limited emphasis on doctoral	
<i>"Given the following four possible activities of academic men, please mark the first in importance to you personally."</i>					
<i>Percentage responding:</i>					
<i>"Provide undergraduates with a broad liberal education"</i>	47	27	33	36	51
<i>"Prepare undergraduates for their chosen occupation"</i>	26	15	23	30	28
<i>"Train graduate or professional students"</i>	15	33	27	18	11
<i>"Engage in research"</i>	12	25	17	16	10
TOTAL	100	100	100	100	100

FACULTY SERVICE TO THE COMMUNITY

The Carnegie Commission maintains that community service by individual faculty members "cannot be distinguished from those (activities) of any citizen performing his civic duty." Regarding such community activities, the Commission declares that "Unless there is some institutional involvement in such services (e.g., released time), it is difficult to view these as public services of the institution."

#14 (73)

FACULTY RESPONSIBILITIES AS CITIZENS AND SCHOLARS

The Carnegie Commission recommends that the rule of the American Association of University Professors which imposes "special obligations" on a faculty member in his role as a citizen be changed. The Commission continues by explaining that "Faculty members as citizens should be able to act as citizens without imposed special obligations and, as faculty members, should be held to the highest standards of academic integrity and scholarship."

#22 (61)

FACULTY COMMITMENT TO IMPROVING SECONDARY SCHOOLS

Cf. 1.3 EDUCATIONAL PRIORITY OF NATION - #19 (67) - C. #107.



THE COLLABORATION BETWEEN SCHOOL AND COLLEGE

The Carnegie Commission recommends that "Colleges and universities should encourage school-college collaboration on substantive matters through promotion and reward policies that recognize the importance of such activities."

#19 (103)

- 626 -

3.22

ROLE OF FACULTY IN NATIONAL SELF-RENEWAL

Cf. 1.3 NATIONAL SELF-RENEWAL - #17 (44) - C. #104.

LITTON 405 - MC501

PART-TIME FACULTY - PARTICIPATION IN GOVERNANCE

3.22

cf. 2.12 GOVERNANCE - PARTICIPATION BY PART-TIME FACULTY - #20 (149) -  
C. #209.

USE OF FACULTY TIME FOR CONSULTING

"There is little question that there are cases in which faculty members engage in outside consulting activities at the expense of adequate devotion of time to their teaching and other academic responsibilities, but is also true that in many fields a moderate amount of consulting activity on the part of faculty members not only enables them to provide valuable public and private services, but also makes them much more interesting and productive teachers."

#12 (75)

USE OF FACULTY TIME FOR RESEARCH

"...we (Carnegie Commission) believe that in many cases scholars who are actively engaged in research are stimulating teachers and that, particularly at the advanced graduate level, it is exceedingly important for students to receive at least part of their training from professors who are actively engaged in advancing the frontiers of knowledge in their fields."

#12 (74)

USE OF FACULTY TIME FOR RESEARCH

Cf. 5.0 - Cards #1191, #1201  
5.3 - Card #1211

FACULTY ADVISERS

cf. 8.3 ADVISING - NEEDED IMPROVEMENTS - #13 (55) for specific recommendation that advising should be made a more recognized assignment for faculty members - Card #1323.

USE OF FACULTY TIME- CLERICAL FUNCTIONS

"Faculty members should not be expected to spend their time on functions that can be carried out by administrative assistants, secretaries, properly supervised examination graders, and other support personnel.... When more support personnel is provided, then it is reasonable that faculty teaching loads might be increased..."

#12 (81)



# UTILIZATION OF FACULTY TIME - FACULTY-STUDENT RATIOS

"The Commission recommends that all colleges and universities examine their utilization of faculty time and in particular that they do so if their student-faculty ratios fall below the following median levels...

Median levels below which special consideration of measures to increase student-faculty ratios may be warranted:

	<i>Public</i>	<i>Private</i>
<i>Research universities</i>	22.0 (weighted)	16.0 (weighted)
<i>Other doctoral-granting universities</i>	21.6 (weighted)	22.0 (weighted)
<i>Comprehensive universities and colleges I</i>	19.7 (weighted)	18.6 (weighted)
<i>Comprehensive universities and colleges II</i>	17.9 (weighted)	16.5 (weighted)
<i>Liberal arts colleges I</i>	*	12.2 (unweighted)
<i>Liberal arts colleges II</i>	*	14.3 (unweighted)
<i>Two-year colleges</i>	19.2 (unweighted)	15.4 (unweighted)

\* There are no public liberal arts colleges I, and data have not been included on public liberal arts colleges II, because the number of these colleges reporting the necessary information was very small.

NOTE. The weight for graduate as against undergraduate students is 3 to 1 in universities and 2 to 1 in comprehensive colleges.

Student-faculty ratio - more effective use of resources

To make more effective use of resources in relation to the students in attendance, the Commission suggests:

"Cautiously raising the student-faculty ratio....it would seem that some increases could take place on a case-by-case basis without reducing quality. It may be possible to raise the student-faculty ratio on the average by one over the decade by careful examination affecting individual institutions and departments without changing the ratio in an across-the-board sense. Raising the average ratio by one would, by itself, reduce costs by about 0.3 percent per year per student—or nearly one-third of the total reduction we recommend of 1 percent per year. But we know far too little about the impact of student-faculty ratios on quality of instruction."

# 12 (17)

FACULTY-STUDENT RATIOS

Studies by the Carnegie Commission in doctoral-granting institutions revealed that "faculty-student ratios and the number of faculty members per field display no consistent pattern of variation with increasing size."

cf. 3.24 RATIO OF GRADUATE ENROLLMENT TO TOTAL ENROLLMENT - #9 (71) -  
C. #762 - for related information

#9 (71)

FACULTY-STUDENT RATIOS - A VARIED MIXTURE

The Carnegie Commission recommends: "Carefully studying and adopting a varied mixture of class sizes at the different levels of instruction and establishing appropriate average class sizes that different departments may be expected to meet..."

#12 (86)

# FACULTY-STUDENT RATIO

Research on teaching effectiveness conducted by W.J. McKeachie and associates in psychology at the University of Michigan reveals that:

- " 1. When scores on class quizzes and examinations were used as the index of learning, neither large classes nor small classes were found to be clearly superior to the other.
2. When retention of knowledge for one to two years was the measure of learning, the small class was found slightly superior.
3. When problem-solving or changes in attitude were the index of learning, the small class was found to be superior"

#12 (66)

# FACULTY-STUDENT RATIOS

TABLE A-6 Distribution of institutions of higher education by student-faculty ratios,\* by type and control of institution, 1967-68

Ratios	Research universities		Other doctoral-granting universities		Comprehensive colleges and universities I		Comprehensive colleges and universities II	
	Public	Private	Public	Private	Public	Private	Public	Private
0-5.9		6.3						
6.0-7.9		31.2		5.6			1.2	
8.0-9.9		15.6	5.7	5.6		1.3	2.4	1.9
10.0-11.9	6.8	21.9		11.1	1.8	6.3		9.6
12.0-13.9	9.1	12.5	20.1	22.1	5.9	5.1	11.9	13.5
14.0-15.9	29.5	3.1	5.7	16.7	12.4	20.3	19.0	25.0
16.0-17.9	27.4	6.3	17.1	11.1	20.0	30.2	21.3	27.1
18.0-19.9	13.6		17.1	11.1	21.1	8.9	19.0	9.6
20.0-21.9	4.5		8.6	5.6	15.3	15.2	8.3	3.8
22.0-23.9	6.8	3.1	20.0	11.1	13.5	5.1	9.5	3.8
24.0-25.9	2.3		5.7		4.7	2.5	6.0	1.9
26.0-27.9					2.9	3.8		
28.0-29.9					1.8			
30.0 or more					0.6	1.3	1.2	5.8
TOTAL	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Median	16.3	9.6	16.2	14.7	18.9	17.1	17.5	16.0
Number of institutions responding	44	32†	35	18	170	79	84	52

\* Unweighted ratios of full-time equivalent students to full-time senior faculty.

SOURCE: Adapted from U.S. Office of Education data by Carnegie Commission staff.

**FACULTY-STUDENT RATIOS**

**TABLE 12**  
*Distribution of institutions of higher education by enrollment size by type and control of institution*

Ratios	Research universities		Other doctoral-granting universities		Comprehensive universities and colleges I		Comprehensive universities and colleges II	
	Public	Private	Public	Private	Public	Private	Public	Private
0-49								
50-79							1.2%	
80-99			2.9				1.2	1.9%
100-119		12.5	2.9		1.2%	3.8%		5.8
120-139		24.9			2.9	6.3	13.1	15.4
140-159	4.5	12.5	8.6	11.1%	8.8	11.4	16.7	21.2
160-179	11.4	15.6	8.6	22.2	20.0	22.7	18.1	23.1
180-199	11.4	9.4	11.4	5.6	20.7	20.3	16.7	15.4
200-219	22.7	6.3	19.8	11.1	13.5	11.4	15.5	1.9
220-239	13.6	6.3	8.6	11.1	17.6	3.8	7.1	7.7
240-259	11.4	3.1	14.3	5.6	8.8	11.4	6.0	3.8
260-279	11.4		14.3	11.1	1.8	5.1	3.6	
280-299	9.1	3.1	8.6	11.1	3.5			
300 or more	4.5	6.3		11.1	1.2	3.8	1.2	3.8
TOTAL	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Median	22.0%	16.0%	21.6%	22.0%	19.7%	18.6%	17.9%	16.5%
Number of institutions reporting	44	32†	35	18	170	79	84	52

See text for Private Liberal Arts Colleges and two-year colleges

# USE OF FACULTY TIME - CLASSROOM INSTRUCTION HOURS

**TABLE A-3** *Distribution of faculty members by formal classroom instruction hours per week, 1969, by type and control of institution*

Classroom hours per week	Research Universities I		Research universities II and doctoral- granting universities I and II		Comprehensive universities and colleges I and II		Liberal arts colleges I and II		Two-year colleges	
	Public	Private	Public	Private	Public	Private	Public	Private	Public	Private
None	12.7	13.0	10.4	5.9	4.8	3.5	0.0	3.7	3.5	8.0
1-4	25.7	34.4	17.9	17.1	8.9	11.3	15.7	9.6	6.0	12.5
5-6	22.2	23.4	19.5	18.4	9.4	12.2	15.7	9.0	4.0	5.4
7-8	13.7	12.8	13.9	14.8	9.6	14.9	4.8	9.1	1.9	0.3
9-10	9.3	7.1	15.6	18.1	17.4	15.5	9.6	18.1	4.0	2.7
11-12	6.3	2.9	10.4	14.2	22.3	25.8	49.4	24.2	9.7	14.2
13-16	5.4	2.4	6.5	6.7	17.7	13.9	4.8	17.7	39.2	43.8
17-20	2.6	2.5	3.3	2.3	5.6	2.8	0.0	5.6	24.0	8.6
21 and over	1.6	1.5	2.5	2.5	4.3	0.1	0.0	2.0	7.7	4.0
Median classroom hours per week	6.0	5.2	7.3	8.2	11.0	10.0	11.2	11.0	15.1	13.6

SOURCE: Carnegie Commission Survey of Students and Faculty, 1969.



TEACHING LOADS - GRADUATE LEVEL FACULTY

"Faculty members involved in graduate instruction cannot carry course loads as heavy as those carried by faculty members in exclusively undergraduate institutions if they are to devote adequate time to supervising Ph.D. theses, sitting on oral examination boards, and performing other time-consuming responsibilities associated with graduate education."

#12 (69)

TEACHING LOADS - DETERMINATION

"We (Carnegie Commission) believe that the best way for colleges and universities to confront the problem of appropriate teaching loads is to involve the faculty itself in an analysis of the questions and of the way in which it relates to current financial stringency, both in public and private universities."

#12 (72)

Faculty teaching load- more effective use of resources

To make more effective use of resources in relation to the students in attendance, the Commission suggests:

"Reexamining the faculty teaching load....the situation varies from one type of institution to another, and so should any action. And any action should be concerned with the total effort expended by faculty members and not classroom hours alone. Studies show that faculty members often work longer than the normal 40-hour week for the American work force as a whole."

#12 (17-18)

GREATER EMPHASIS ON ART OF TEACHING

Cf. 4.0 REEMPHASIS ON TEACHING - #13 (48) - C. #903.

FACULTY RESPONSIBILITY FOR INSPIRING TEACHING

The Carnegie Commission emphasizes the "reaffirmation by faculty members of their responsibility for providing inspiring teaching.

The Commission also recommends the "adoption of codes of conduct for members of the campus community that reflect the high purpose of the academic endeavor, particularly a Bill of Rights and responsibilities."

722 (91)

TEACHING PERFORMANCE

Cf. 4.4 NEW METHODS OF EVALUATING TEACHING PERFORMANCE - #13 (48-49)-  
C. #1138.

PERFORMANCE REVIEW BY STUDENTS

- cf. 2.13 STUDENT EVALUATION OF FACULTY PERFORMANCE - #16 (71)- C. #235.  
2.13 EVALUATION OF TEACHING PERFORMANCE - STUDENT ROLE - #13 (50) -  
C. # 236.

TEACHING EVALUATION -

cf. 4.4 INNOVATIVE OUTCOME MEASUREMENTS - #R37 (90)- C. #1121.



649 -

FACULTY REWARDS FOR TEACHING

3.22

The Carnegie Commission emphasizes the importance of good teaching by recommending that "Teaching performance should be the basic criterion for rewards to faculty members, except in research universities where research, of necessity, is of equal or greater importance."

#13 (50)

- 650 -

3.22

REWARD FOR TEACHING

The Carnegie Commission recommends that "There should be equal reward for teaching as for research..."

Cf. 4.12/4.13 DOCTOR OF ARTS AND TEACHER TRAINING - #22 (28) -  
Card #1025.

#22 (28)

FACULTY INCENTIVES FOR INSTRUCTIONAL ADVANCES

The Carnegie Commission recommends that "Colleges and universities should provide incentives to faculty members who contribute to the advancement of instructional technology. Released time for the development of instructional materials and promotions and salary improvement for successful achievement in such endeavors should be part of that encouragement."

#11 (56)

Faculty salaries

- 652 -

3.22

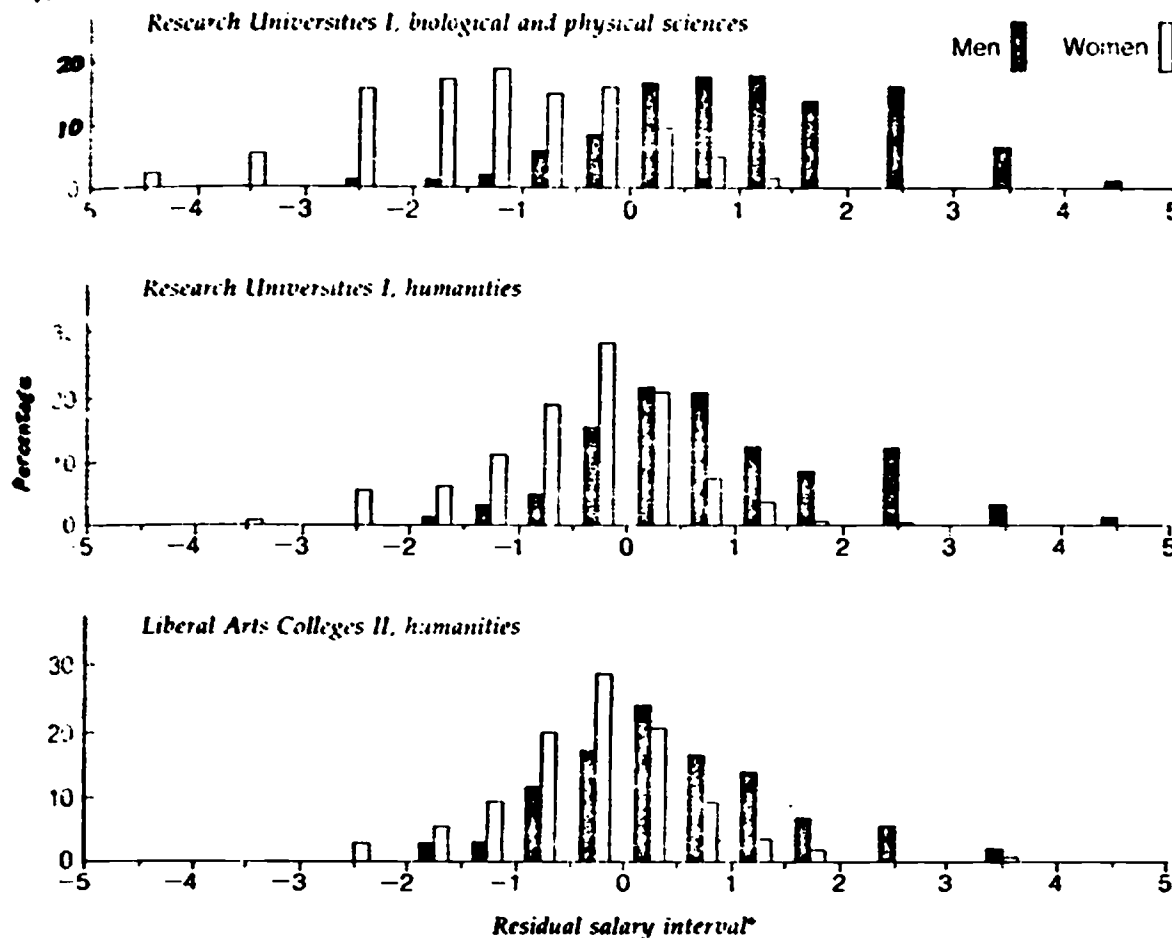
"Windfall" changes which the Commission suggests be accepted to produce savings include:

"Faculty salaries will probably increase less rapidly than wages and salaries generally in the 1970s rather than more rapidly as in the 1960s. This may result in savings each year of 0.25 percent to 0.5 percent on total costs as compared with the 1960s....in the 1970s, they are more likely to rise with the cost of living plus 1 or 2 percent—and possibly even less than that."

#12 (18)

# DISTRIBUTION OF DIFFERENCES BETWEEN ACTUAL AND PREDICTED SALARY - FACULTY

FIGURE 14 Distribution of differences between actual salary and salary predicted from equation for the opposite sex, for male and female faculty members in selected institutions and fields, 1969



\*One salary interval equals \$3,000.

SOURCE: Adapted from Carnegie Commission Survey of Faculty and Student Opinion, 1969.

ROYALTY ARRANGEMENTS FOR FACULTY-DEVELOPED VISUAL MATERIAL

Alexander Mood suggests that "royalty arrangements of some kind need to be devised in order to give incentives to faculty members to divert some of the effort they now devote to writing textbooks to developing TV and computer-assisted instruction (CAI) material."

#R37 (90)

LEAVES OF ABSENCE

"Institutions tend to have policies limiting the length of a continuous leave of absence...but often there is no policy restricting the frequency with which faculty members may take leaves of lesser duration... When this happens it does not achieve effective use of resources.... Probably the chief sufferers in these cases are graduate students at the doctoral-thesis stage."

#12 (80-81)

MATERNITY LEAVE

"Women should be entitled to maternity leave for a reasonable length of time, and affirmative action plans should include specific provisions relating to the definition of a reasonable length of time, right to accumulated leave, and other relevant considerations."

#20 (149-150)



SABBATICAL LEAVES

"...we(Carnegie Commission) do not believe curtailing sabbatical arrangements, except where they may be unusually generous, is in the long-run interest of institutions of higher education."

#12 (80)

PART-TIME APPOINTMENTS - BENEFITS

"Part-time appointments should not be discouraged for men and women whose family circumstances make such appointments desirable. Institutions may find it advantageous to distinguish, as some have done, between (1) such part-time appointments and (2) appointments to the faculty of persons whose principal employment is elsewhere and who come to the campus to give one or two specialized courses. For example, fringe benefits, prorated on the basis of the proportion of a full-time appointment, are more appropriate for the first type of part-time employee."

#20 (149)

## TENURE FOR PART-TIME FACULTY APPOINTMENTS

3.22

"Policies requiring decisions on the granting of tenure to be made with a given period of years should permit a limited extension of the time period for persons holding part-time appointments. Men and women holding part-time appointments for family reasons should be permitted to achieve tenure on a part-time basis. In such cases, tenure on a full-time basis at some future time would not be ensured, but the institution should attempt to shift the individual's status to a full-time tenured position when desired if budgetarily possible and academically appropriate."

#20 (149)

TENURE - PART-TIME TEACHERS

"Persons on a 50-percent time basis or more should be eligible for tenure, but the time elapsed before a decision on tenure must be made should be counted on a full-time-equivalent basis."

#16 (59)

TENURE SYSTEMS - MANAGEMENT

"Tenure systems should be so administered in practice (1) that advancements to tenure and after tenure are based on merit, (2) that the criteria to be used in tenure decisions are made clear at the time of employment, (3) that codes of conduct specify the obligations of tenured faculty members, (4) that adjustments in the size and in the assignments of staff in accord with institutional welfare be possible when there is a fully justifiable case for them, (5) that fair internal procedures be available to hear any cases that may arise and (6) that the percentage of faculty members with tenure does not become excessive."

#16 (58)

# TENURE

The Carnegie Commission recommends "The continuation of the principle of tenure, with modifications in practice to reduce its rigidities."

#22 (58)

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1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33

FACULTY TENURE

Alexander Mood recommends that "Tenure should be abolished. It must remain illegal to terminate faculty appointments for political reasons, but there should be no problem at all about terminating appointments of those whose teaching or research performance is poor."

#R37 (89)



TENURE - MAJOR ADVANTAGES

The Carnegie Commission observes several major advantages contributed by tenure to the academic world and to society. These advantages include:

- increased sense of academic freedom
- improved quality of faculty produced by a long probationary period and careful review of qualifications preceding the awarding of tenure
- encouraged responsibility in leadership and continuity in faculty membership

#16 (55-56)

TENURE

"Granting tenure is ultimately a decision that should be made on the basis of academic judgments alone. The granting of tenure should be viewed as a positive act based on meritorious achievement..."

#16 (59)

# COLLECTIVE BARGAINING

The Commission notes that "Collective bargaining is now spreading rapidly, although its future course is quite unclear...It can come, when it does, as a supplement to current forms of governance, if it is confined to bargaining over matters of compensation; or it can be a totally new form of governance, as in the Boston State contract, covering all decision-making processes."

According to the Commission's findings, "Half or more of faculty members, according to our studies, now favor collective bargaining, and also favor greater militancy in asserting faculty interests."

Cf. 2.12- C. # 214 - # 220 for additional information on Collective Bargaining

#22 (54)

# RETIREMENT POLICIES

"The Commission believes that retirement policies should be as flexible as possible and that all institutions should have provisions permitting extension of the normal retirement age in the case of faculty members who continue to be valuable teachers."

#12 (115)

3.22/3.2

# INSTITUTIONAL PERSONNEL SYSTEM PREFERRED

The Carnegie Commission observes that "Institutional freedom is more easily fostered if each institution has its own personnel system, at least for faculty members..."

#5 (108)

## PROFILE OF UNDERGRADUATES IN ALL INSTITUTIONS

**Table 9: Profile of Undergraduates in All Institutions—Political  
Ideology and Participation in at Least One Demonstration**

<i>Political ideology* and participation†</i>	<i>Percent of undergraduates‡</i>
<i>Left and participated</i>	5
<i>Left and did not participate</i>	1
<i>Liberal and participated</i>	19
<i>Liberal and did not participate</i>	21
<i>Middle-of-the-road and participated</i>	6
<i>Middle-of-the-road and did not participate</i>	30
<i>Moderately or strongly conservative and participated</i>	2
<i>Moderately or strongly conservative and did not participate</i>	16
<b>TOTAL</b>	<b>100</b>

\* *Political ideology*: response to the question "How would you characterize yourself politically at the present time (left, liberal, middle-of-the-road, moderately conservative, or strongly conservative)?"

† *Participation*: participated in or helped organize or lead at least one demonstration since entering college, at their college or elsewhere, against United States military policy, existing ethnic or racial policies, or administrative policies of a college.

‡ Percentages may vary up to two percentage points from figures in other tables because of omission of "no opinion" responses, and because of rounding.

SOURCE: Carnegie Commission survey of undergraduates in 1969-70.

# DISTRIBUTION OF COLLEGE ATTENDERS AMONG FAMILY INCOME GROUPS

Family income group	Total attenders	Public institutions		
		Universities	Four-year	Two-year
Under \$3,000	388	82	121	185
\$3,000-\$5,000	741	140	207	294
\$5,000-\$7,500	1,155	210	311	348
\$7,500-\$10,000	1,415	340	416	334
\$10,000-\$15,000	2,147	580	623	446
Over \$15,000	2,184	775	419	236
<b>TOTAL</b>	<b>8,030</b>	<b>2,127</b>	<b>2,097</b>	<b>1,726</b>

SOURCE: Column 1 computed from "Social and Economic Characteristics of Students: October 1971," U.S. Bureau of the Census, ser. P-20, no. 241, October 1972, Table 14 distribution by type of institutions from unpublished Office of Education data reported by Hartman (1972b, p. 493).

UNDERGRADUATE ATTITUDES

Cf. 1.4 DESIRES OF UNDERGRADUATES - #17 (15) - C. #147.



GRADUATE STUDENT ATTITUDES

Cf. 1.4 ASPIRATIONS OF GRADUATE STUDENTS - #17 (16) - C. #148.

STUDENT ATTITUDES

Cf. 3.24 STUDENT ATTITUDES: RELUCTANT ATTENDANCE - # 21 (18) - C. #845.

# POLITICAL IDEOLOGY OF UNDERGRADUATES

**Table 8: Political Ideology of Undergraduates, by Carnegie Commission  
Typology of Institutions\***

Political ideology	Percent of undergraduates			
	Doctoral-granting institutions			
	All insti- tutions	Heavy emphasis on research	Moderate emphasis on research	Moderate emphasis on doctoral
<i>Left</i>	5	12	8	6
<i>Liberal</i>	39	49	40	43
<i>Middle-of-the-road</i>	37	26	32	35
<i>Moderately conservative</i>	17	12	17	15
<i>Strongly conservative</i>	2	1	3	1
<b>TOTAL</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>

\* For a description of the Carnegie Commission typology of institutions, see Appendix C.

SOURCE: Carnegie Commission survey of undergraduates, 1969-70.

cf. 8.1 STUDENT PROTEST - #13 (19-20) for reasons for student participation in demonstrations. C. # 1320.

FREEDOM OF CHOICE

The Carnegie Commission recommends that "Students should be given the maximum freedom of choice in choosing the institution they wish to attend." The Commission continues by assigning the responsibility for assuring this freedom to the state systems rather than to the individual institutions.

C2. 2.32 STATE OBLIGATION TO QUALIFIED STUDENTS - #10 (3) -  
C. # 298.

#10 (3)

CREATIVE SCHOLARSHIP - A NECESSARY RESOURCE

The Carnegie Commission observes that creativity tends to "peak at relatively early ages in such fields as the physical sciences and mathematics" and encourages the flow of young scholars in these particular fields as a valuable resource.

#15 (152)

**"Higher education will grow less in numbers of traditional students and more in numbers of nontraditional students."**

**#21 (13)**

NONTRADITIONAL STUDENTS

Cf. 3.24 ENROLLMENTS OF "TRADITIONAL" STUDENTS - #22 (4) - C. #811 for information concerning the projected decline in traditional enrollments with an anticipated increase in nontraditional students



3.24

SPECIAL STUDENTS: MINORITY, PART-TIME, and RETURNING

The Carnegie Commission recommends that "More programs that pay special attention to students drawn from minority groups, and that are available to part-time and to recurrent students returning to college later in life, should be created."

722 (29)

MORE NONTRADITIONAL STUDENTS ENCOURAGED

The Carnegie Commission suggests that "higher education concentrate on academic and broad occupational programs, adding more nontraditional students."

#21 (11)

**"Statistically and legally (even ignoring that the age of majority has been lowered in many states since the passage of the 26th amendment to the Constitution of the United States) about 42 percent of all students on college and university campuses are adults."**

ERIC  
Full Text Provided by ERIC

**"Once admitted to a college or university for academic studies, qualified part-time students will be eligible to take courses in the regular department of the institution and will be accorded the same campus privileges that are accorded to full-time students."**

**#21 (85)**

PART-TIME STUDENTS

Cf. 8.4 AID FOR PART-TIME STUDENTS - #1 (30) - C. # 1442.

- 686 -

3.24

PART-TIME STUDENTS

Cf. 8.7 URBAN SETTING ADJUSTMENTS - PART-TIME STUDENTS - #14 (4)  
C. # 1450.

LITTON AND - 686

PART-TIME GRADUATE OR PROFESSIONAL STUDENT

"Rules and policies that discriminate against the part-time graduate or professional student should allow for exceptions to accommodate men or women whose family circumstances require them to study on a part-time basis. Any limitation on the total number of graduate or professional students admitted by departments or schools and by the institution as a whole should be applied on a full-time-equivalent rather than on a head-count basis."

#20 (106)

The Commission recommends "more opportunities in colleges for part-time and for adult students" with the subsequent reduction of admission barriers, of fee structures, of course requirements, of class schedules, and of negative faculty attitudes.

cf. 4.4 "SHORT-CYCLE" PROGRAMS - #21 (5)- C. #1150.

**#21 (5)**



ADULT STUDENTS

Cf. 8.0 STUDENT SERVICES FOR ADULT STUDENTS - #21 (85) - C. # 1316.

ADULT LEARNERS - SUBJECTS STUDIED

cf. 4.0 SUBJECT AREAS STUDIED BY ADULT LEARNERS - #21 (29) - C. #918.

AGE OF STUDENTS AT COMMUNITY COLLEGES

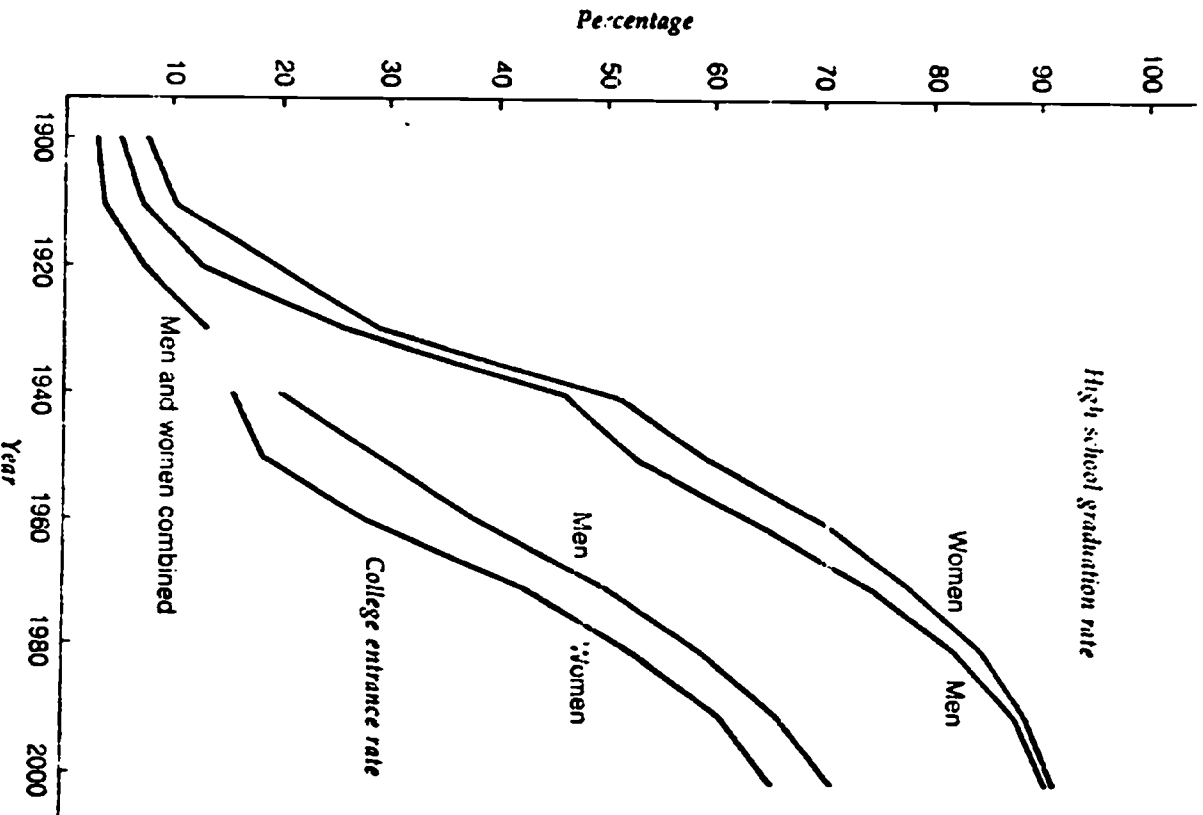
The Carnegie Commission observes that half of the students in two-year colleges are adults, "ranging in age from 22 to 70 or more, with a median age of about 25 years." Conclusions about the population market for other institutions can be deduced from this observation.

#3 (6)

**The Carnegie Commission recommends that "There should be a greater mixing of age groups on campus through providing more opportunities for older persons to take classes and to obtain needed financial support."**

**#17 (21-22)**

**CHART 3**  
Percentage of  
relevant age  
group  
graduating from  
high school and  
percentage  
entering college\*  
in the following  
year, by sex,  
decade-to-decade  
changes, actual,  
1900-1970, and  
projected,  
1980-2000



\* Average of 17- and 18-year old populations.

\* Includes only degree-credit enrollment.

Sources: Haggstrom (1971a and 1971b).

PERCENTAGE OF RELEVANT AGE GROUP CONTINUING IMMEDIATELY TO COLLEGE

PRISON INMATES

cf. 4.4 INSTRUCTION FOR PRISONERS - #21 (95) for instructional programs  
for prison inmates - C. #1163.

STUDENTS FROM ETHNIC MINORITIES

cf. 1.4 SERVICE TO ETHNIC MINORITIES - #2 (3) - C. # 125.

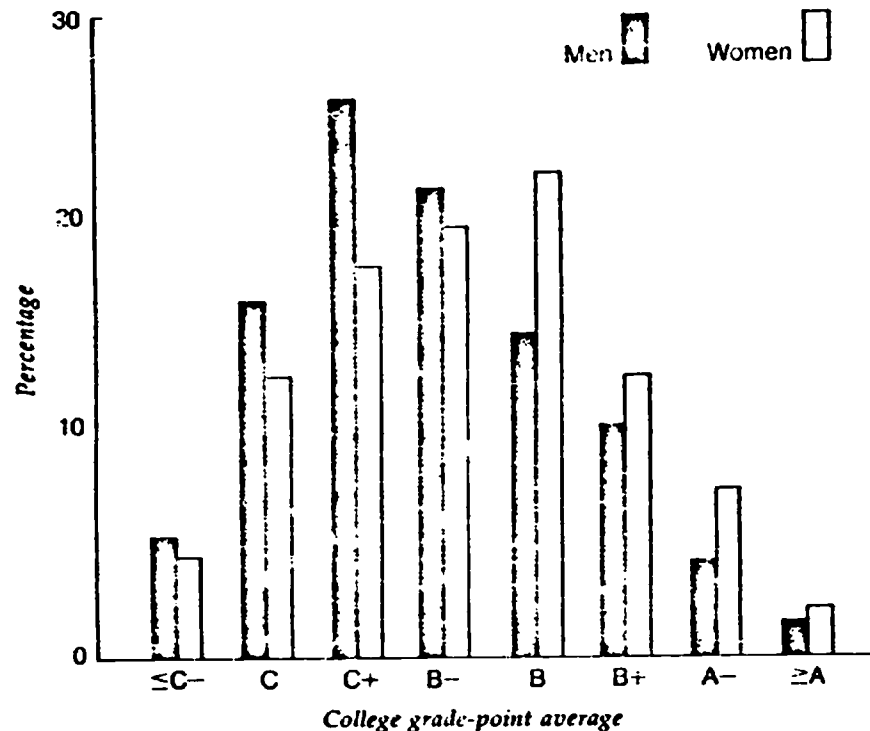
ASSISTANCE FOR UNDERPREPARED STUDENTS

Cf. 8.3 - Cards # 1333 and #1334.



# 697 3.24 UNDERGRADUATE STUDENTS - GRADE-POINT AVERAGES BY SEX

CHART 5  
Grade-point  
averages of  
undergraduate  
students, by sex



SOURCE: Carnegie Commission Survey of Faculty and Student Opinion, 1969.

"Women consistently receive higher grades than men in field after field, with a margin of between one-half of a grade point and a full grade point, depending on the field."

WOMEN GRADUATE STUDENTS - FACULTY ATTITUDES TOWARD

"Positive attitudes on the part of faculty members toward the serious pursuit of graduate study and research by women are greatly needed. College and university administrations should assume responsibility for adoption of policies that will encourage positive, rather than negative, attitudes of faculty members in all fields."

#20 (107)

WOMEN GRADUATE STUDENTS - DIFFICULTIES ENCOUNTERED

The Carnegie Commission, noting that 41% of the women in graduate school are likely to be single, acknowledges that married women encounter difficulty in attending graduate school, especially if they have children.

#20 (83)

MARRIED WOMEN GRADUATE STUDENTS - STUDENT SPOUSES

"Of special interest are data indicating that more than one-half of the married women graduate students, as contrasted with only about one-fourth of the married men, had spouses who attended graduate school or had attained a graduate degree. This suggests that women who are married to graduate students or to men who have attained a graduate degree are especially likely to seek graduate education."

#20 (85)

# WOMEN GRADUATE STUDENTS IN MALE FIELDS - MASTER'S LEVEL

"At the master's level, however, more decisively than at the bachelor's level, there has been a recent substantial increase in the number of women receiving degrees in certain traditionally male fields."

#20 (86)

cf. 4.3 ATTITUDE-CHANGING POLICIES - #20 (79) - for suggestion that institutions change attitudes antagonistic to enrollment of women in traditionally male fields. Card #1068.

WOMEN DOCTORAL CANDIDATES - ABILITY

"Most of the available evidence suggests that women who enter graduate school are relatively able and that women who receive the doctorate are more able, on the average, than men who receive the doctorate."

#20 (92)

# FACTORS WHICH INFLUENCE COLLEGE ATTENDANCE

The Carnegie Commission, although admitting that there are several other factors which influence college attendance, emphasizes that there are five factors most relevant to social policy which determine (in 1968) attendance at an institution of higher education. These factors include:

- income level of family - a family of over \$15,000 income with one or more college-age (18 - 24) children is five times as likely to include a full-time college student as a similar family with an income under \$3,000
- ethnic grouping - the proportion of blacks (18-to 24-years old) enrolled in an institution of higher education was only  $\frac{1}{2}$  that of whites; Other minority groups (Native Americans, Chicanos, Puerto Ricans) are even less well represented in college enrollments.
- geographic location - young persons in the Pacific Southwest attend college at twice the rate of those in the Deep South.
- age - many Americans were denied a college education when they were the traditional age of a college student.
- quality of early schooling- the variance which exists in elementary and secondary quality of education is a recognized factor in deterring some students from a college education

#2 (2-3)



1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1  
30 32 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1

... - 705 - 3.24

ENROLLMENT

cf. 1.0 ACCESS TO HIGHER EDUCATION - #21 (1) for recommendation which opposes universal attendance - C. #29.

"A program of universal attendance would be costly and may be very wasteful of resources."

#21 (2)

ATTENDANCE

Cf. 1.0 UNIVERSAL ACCESS - # 22(36) and #3 (15) - C. #30 for distinction between universal access and universal attendance.

"The Commission recommends that all colleges and universities give careful attention to recruitment policies designed not only to maintain adequate enrollments but also to achieve such objectives as equality of opportunity, broad geographical distribution wherever feasible, and diversity in the student body. As we approach a period of stationary enrollment, many public institutions of higher education will need to place greater emphasis than they have in the past on recruitment programs aimed at maintaining adequate enrollments."

**#12 (146)**



MINIMUM AND MAXIMUM FTE ENROLLMENT OBJECTIVES

"The Commission recommends that state plans for the growth and development of public institutions of higher education should, in general, incorporate minimum FTE enrollment objectives of (1) 5,000 students for doctoral-granting institutions...(and) maximum FTE enrollment objectives of (1) about 20,000 students for doctoral-granting institutions..."

#9 (85)

# SUGGESTED MINIMA AND MAXIMA SIZES FOR INSTITUTIONS

The Carnegie Commission suggests that the following minima and maxima sizes (on the basis of full-time equivalent enrollment) be observed:

type of institution	minima	maxima
liberal arts colleges	1,000	2,500
community colleges	2,000	5,000
comprehensive colleges	5,000	10,000
university campuses	5,000	20,000

#9 (6)

INSTITUTIONAL SIZE

"The Commission reiterates the recommendations that were made in its report, New Students and New Places, relating to the optimum size of institutions."

#12 (43)

DIFFICULTIES OF VERY LARGE INSTITUTIONS

The Carnegie Commission observes that "very large campuses can also be extremely difficult to administer." In addition the Commission notes that increased faculty and student body contribute to a loss in flexibility and adaptability desirable in an intellectual environment. The Commission further declares that "additional enrollment increases are not likely to contribute to increased quality."

#9 (81)



3.24

# GRADUATE SCHOOL ENROLLMENT LIMITS

The Carnegie Commission warns states to "consider carefully the adverse effects of enrollment limits at the graduate level for out-of-state students."

#5 (60)

## MULTICAMPUS SYSTEMS AND ENROLLMENT

"...multicampus systems accounted for about 6 percent of all institutions and about 41 percent of enrollment in higher education in 1968:

	Multicampus institutions as percent of all institutions of higher education, 1968	Enrollment in multicampus systems as percent of total enrollment in higher education, 1968
<i>Public colleges and universities</i>	12.0	52.3
<i>Universities</i>	60.0	77.2
<i>Other four-year institutions</i>	8.5	41.6
<i>Two-year colleges</i>	5.5	25.1
<i>Private colleges and universities</i>	2.0	9.7
<i>Universities</i>	13.8	18.0
<i>Other four-year institutions</i>	1.4	5.7
<i>Two-year colleges</i>	1.5	4.6
<i>Total colleges and universities</i>	5.7	40.5

SOURCE: Estimates developed by Carnegie Commission staff from U.S. Office of Education data.

# ENROLLMENT OF RACIAL MINORITIES

"Racial minority groups—including black Americans, Mexican-Americans, Puerto Ricans, and American Indians— were seriously underrepresented in American higher education in 1970." The Commission further notes that "minority groups have tended to be even less well represented, relatively, at the graduate than at the undergraduate level."

#9 (25 - 26)

**ENROLLMENT - WOMEN AND MINORITY GROUPS IN ACADEMIC PROGRAMS**

The Carnegie Commission recommends that "Associations of professional schools should collect annual data on enrollment of women and minority-group students and should stimulate programs designed to encourage and assist them. Within arts and science fields there should be similar efforts."

#15 (138-139)

ENROLLMENT OF WOMEN - MARRIAGE AS A BARRIER

"...marriage is a more important barrier to enrollment of women in higher education than it is for men, although it also seriously inhibits male enrollment."

Of. 3.24 PERCENTAGE ENROLLED IN COLLEGE BY MARITAL STATUS, AGE, & SEX - #20 (43) - C. #755.

#20 (43)

# ENROLLMENT - INFLUENCE OF JOB MARKET

The Commission recommends that "Institutions of higher education and governments at all levels should not restrict undergraduate opportunities to enroll in college or to receive student aid because of less favorable trends in the job market for college graduates that have prevailed in the recent past."

#15 (21)

**The Carnegie Commission acknowledges that higher education forms of post-secondary degree-credit instruction have become a public matter — "three-fourths of all prebaccalaureate students are in public colleges and universities."**

**#21 (49)**

# SOURCES OF ADULT LEARNING ACTIVITY - COMPETITION FOR ENROLLMENT

**TABLE 2**  
*Sources of  
adult learning  
activity*

<i>Sponsor</i>	<i>Number of learners (in millions)</i>	<i>Percentage of learners</i>
<i>Academic institutions, such as high schools and colleges</i>	7.4	22.9
<i>Industry and employers</i>	5.9	18.4
<i>Self-study</i>	5.4	16.9
<i>Community organizations, such as YMCA</i>	2.8	8.7
<i>Religious institutions</i>	2.0	6.3
<i>Government agencies</i>	1.8	5.5
<i>Proprietary and correspondence schools</i>	1.7	5.3
<i>Private tutors</i>	1.4	4.4
<i>Museums, galleries, performing arts studios</i>	0.7	2.3
<i>Recreation and sports groups</i>	0.7	2.3
<i>Other organizations or no response</i>	2.2	7.0

SOURCE: Commission on Non Traditional Study (1973, p. 82).

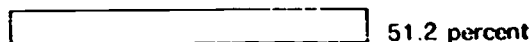


# **SYSTEM OF POSTSECONDARY EDUCATION ON FULL-TIME-EQUIVALENT BASIS (1970) -** **COMPETITION FOR ENROLLMENT**

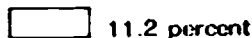
**CHART 1** *The system of postsecondary education in the United States, 1970, on a full-time-equivalent basis*

## *Higher education*

*Full-time degree-credit students*

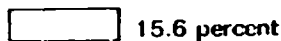


*Part-time and non-degree-credit students*

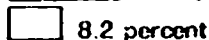


## *Further education*

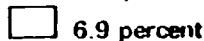
*Employers and unions*



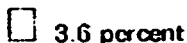
*Private specialty schools*



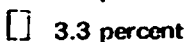
*Armed forces*



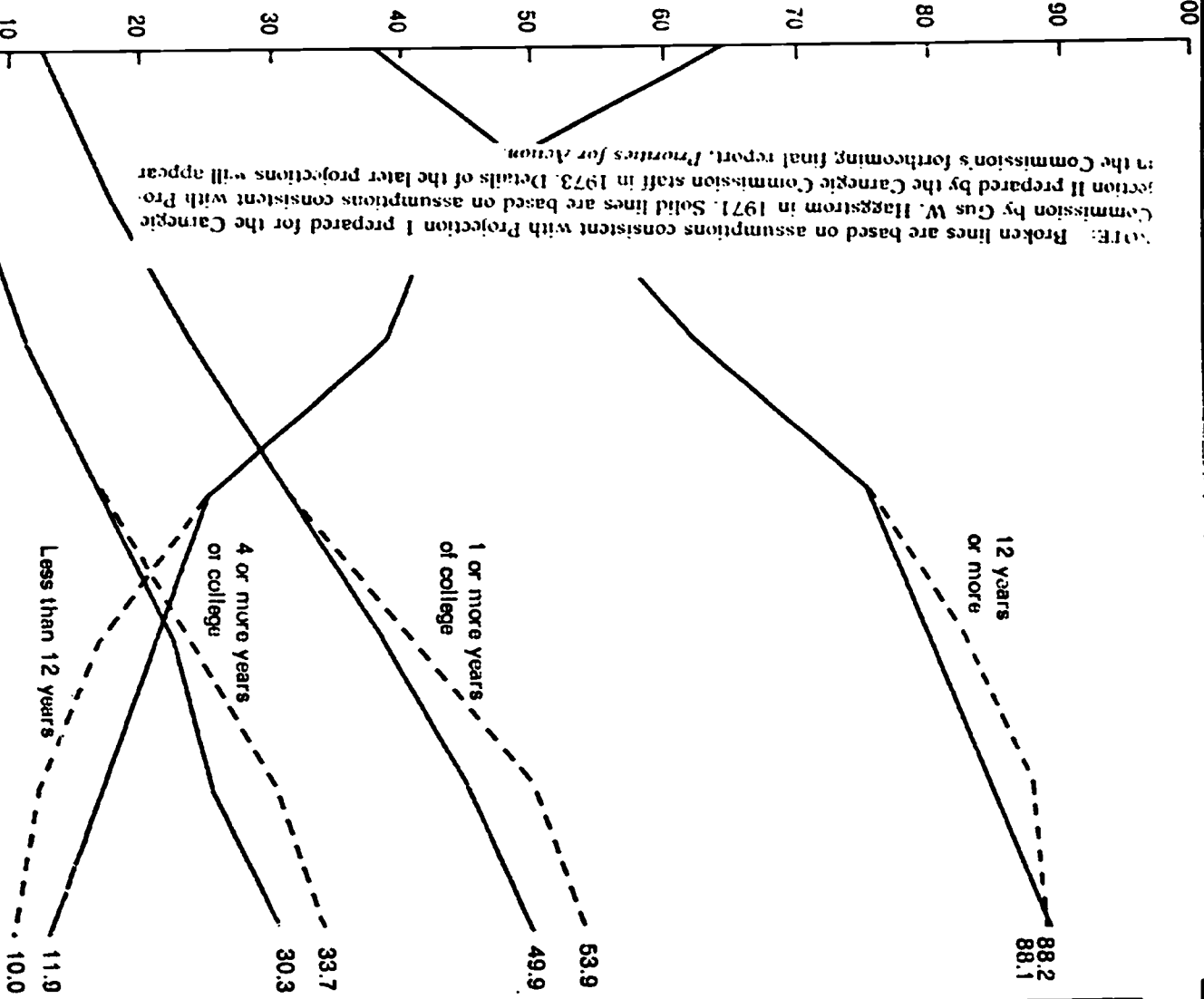
*Elementary and secondary schools and other public postsecondary programs*



*All other*

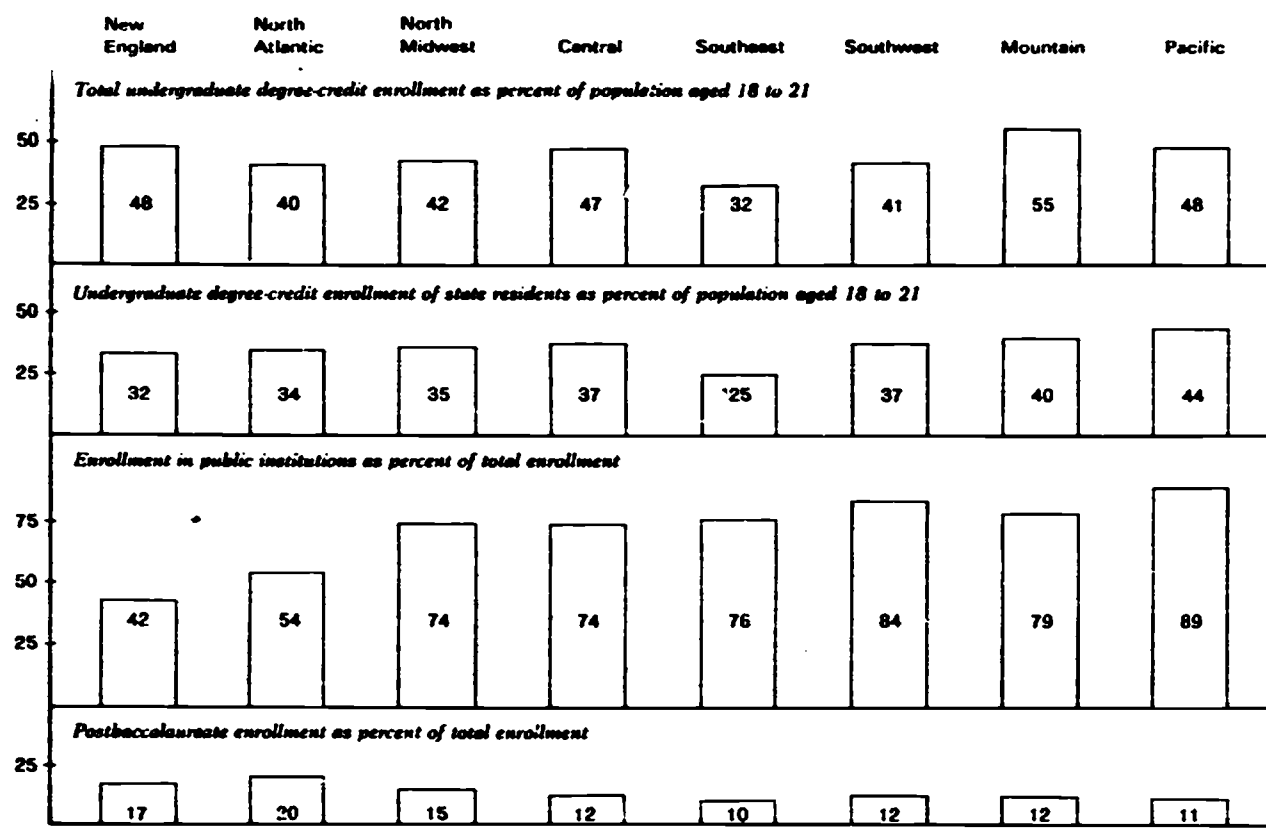


SOURCE: Table 5.



NOTE: Broken lines are based on assumptions consistent with Projection I prepared for the Carnegie Commission by Gus W. Haggstrom in 1971. Solid lines are based on assumptions consistent with Projection II prepared by the Carnegie Commission staff in 1973. Details of the later projections will appear in the Commission's forthcoming final report, *Priorities for Action*.

**REGIONAL VARIATIONS IN ENROLLMENT PATTERNS. UNITED STATES. 1968**



SOURCE: Appendix B, Table 6, and U.S. Office of Education data adapted by Carnegie Commission staff.

# PERCENTAGE OF HIGH SCHOOL GRADUATES GOING TO COLLEGE THE FOLLOWING YEAR

APPENDIX TABLE 3. Percentage of high school graduates going to college the following year, by academic ability, socioeconomic background, and sex, 1957, 1961, and 1967

	MEN				WOMEN			
	INCREASE				INCREASE			
SOCIOECONOMIC QUARTILE AND ABILITY QUARTILE	1957	1961	1957	1961-1957	1957	1961	1967	1961-1967
1. LOW SOCIOECONOMIC QUARTILE								
1. LOW ABILITY QUARTILE	6	9	33	+24	4	8	25	+17
2	17	16	43	+27	6	13	28	+15
3	29	32	60	+28	9	25	44	+19
4. HIGH	52	58	75	+17	28	34	60	+28
2. SOCIOECONOMIC QUARTILE								
1. LOW ABILITY QUARTILE	12	14	30	+16	9	12	28	+16
2	27	25	39	+14	20	12	36	+24
3	43	58	68	+31	24	30	48	+18
4. HIGH	59	74	80	+6	37	51	73	+22
3. SOCIOECONOMIC QUARTILE								
1. LOW ABILITY QUARTILE	18	16	29	+13	16	13	36	+23
2	34	36	55	+19	26	21	50	+29
3	51	46	68	+20	31	40	68	+28
4. HIGH	72	79	88	+10	48	71	83	+12
4. HIGH SOCIOECONOMIC QUARTILE								
1. LOW ABILITY QUARTILE	39	34	57	+23	33	26	37	+11
2	61	45	61	+16	44	37	67	+30
3	73	72	79	+7	67	65	77	+12
4. HIGH	91	90	92	+2	76	85	83	+8

SOURCE: Adapted from 1968-69 K. P. C. 1968 Beyond the Open Door: New Students to Higher Education, Jossey-Bass, Inc., San Francisco, 1967, p. 7.

#22 (97)

LITTON AND - MCKEY

# PERCENTAGE OF HIGH SCHOOL GRADUATES ENTERING COLLEGE

3.24

TABLE 2 Percentage of high school graduates going to college the following year, by academic aptitude, socioeconomic background, and sex, 1957, 1961, and 1967

Socioeconomic quartile and ability quartile	Men			Women		
	1957	1961	1967	1957	1961	1967
1 (low) Socioeconomic quartile						
1 (low) Ability quartile	6	9	33	4	8	25
2 $\updownarrow$	17	16	43	6	13	28
3 $\updownarrow$	28	32	60	9	25	44
4 (high) Ability quartile	52	58	75	28	34	60
2 Socioeconomic quartile						
1 (low) Ability quartile	12	14	30	9	12	28
2 $\updownarrow$	27	25	39	20	12	36
3 $\updownarrow$	43	38	69	24	30	48
4 (high) Ability quartile	59	74	80	37	51	73
3 Socioeconomic quartile						
1 (low) Ability quartile	18	16	29	16	13	36
2 $\updownarrow$	34	36	55	26	21	50
3 $\updownarrow$	51	48	68	31	40	68
4 (high) Ability quartile	72	79	89	48	71	83
4 (high) Socioeconomic quartile						
1 (low) Ability quartile	39	34	57	33	26	37
2 $\updownarrow$	61	45	61	44	37	67
3 $\updownarrow$	73	72	79	67	65	77
4 (high) Ability quartile	91	90	92	76	85	93

SOURCE: Cross (1971, p. 7).

3.24

# NATIONAL HIGHER EDUCATION EFFORT - UNDERGRADUATE ENROLLMENT

TABLE 3  
Number of  
undergraduate  
enrollments in  
state per 100  
eligible  
twenty-one-year-  
olds in state  
(1960)

State	Rate
District of Columbia	102
Utah	83
Massachusetts	68
Colorado	61
Vermont	61
Oregon	61
Arizona	61
New York	59
California	58
Nevada	58
Wisconsin	58
Oklahoma	57
South Dakota	56
Kansas	56
Iowa	55
Wyoming	54
Washington	54
Rhode Island	53
Minnesota	52
Idaho	52
Missouri	52
Connecticut	51
Michigan	50
Indiana	50
North Dakota	50
Illinois	49
New Hampshire	47
Montana	46
Pennsylvania	45
Ohio	44
New Mexico	44
West Virginia	43
Texas	42
Tennessee	42
Louisiana	42
Florida	42
Mississippi	37
Hawaii	36
Arkansas	36
Alabama	36
Delaware	35
New Jersey	33
North Carolina	32
Maine	31
Georgia	29
Virginia	27
Nevada	26
South Carolina	22
Alaska	10
TOTAL U.S.	48

#5(112-113)

# UNDERGRADUATE DEGREE-CREDIT ENROLLMENT - ACTUAL AND PROJECTED

**TABLE 1**  
Undergraduate degree-credit enrollment, in numbers and as percent of population aged 18 to 21, United States, actual, 1870 to 1970, and projected, 1980 to 2000

Year	Undergraduate degree-credit enrollment*		Percent of increase attributable to change in enrollment rate	
	Number (in thousands)	Percentage change	Percent of population aged 18 to 21	Percent of increase attributable to change in enrollment rate
1870	52		1.7	
1880	116	122	2.7	30
1890	154	33	3.0	65
1900	232	50	3.9	29
1910	346	49	5.0	34
1920	582	68	7.9	10
1930	1,053	81	11.9	25
1940	1,388	32	14.5	26
1950	2,422†	74	26.9	0
1960	3,227	33	33.8	19
1970	6,840	112	47.6	45
1980	10,080	48	59.2	39
1990	9,660	-4	67.4	-100
2000	12,700	31	72.6	70

\*Graduate students are included in 1870 and 1880, but their numbers were very small in those years. Most students enrolled in first professional degree programs are included in all years. Before 1960, data are based on the biennial surveys conducted by the U.S. Office of Education, relate to the academic year ending in the designated year, and exclude extension enrollment. From 1960 on, the data relate to opening fall enrollment and include extension enrollment.

†Includes 898,000 veterans of World War II.

# ENROLLMENT IN INSTITUTIONS OF HIGHER EDUCATION - 1970

TABLE 2 Enrollment in institutions of higher education and number of institutions, by type of institution and control United States, 1970

TYPE OF INSTITUTION	ENROLLMENT (IN THOUSANDS)					NUMBER OF INSTITUTIONS				
	PUBLIC	PRIVATE	TOTAL	PER- CENT OF PUBLIC	PER- CENT OF TOTAL	PUBLIC	PRIVATE	TOTAL	PER- CENT OF PUBLIC	PER- CENT OF TOTAL
TOTAL*	8,384.4	2,132.0	8,488.2	74.9	100.0	1,313	1,514	2,827	46.4	100.0
DOCTORAL-GRANTING INSTITUTIONS	1,800.8	636.8	2,537.7	74.9	29.9	101	83	184	81.6	5.8
HEAVY EMPHASIS ON RESEARCH	774.3	238.5	1,010.8	76.9	11.9	26	20	46	56.5	1.6
MODERATE EMPHASIS ON RESEARCH	579.2	155.1	734.5	78.9	8.8	30	18	48	62.5	1.7
MODERATE EMPHASIS ON DOCTORAL PROGRAMS	278.8	135.8	414.4	67.3	4.9	23	12	35	65.7	1.2
LIMITED EMPHASIS ON DOCTORAL PROGRAMS	288.5	109.7	378.2	71.0	4.5	22	13	35	62.9	1.2
COMPREHENSIVE COLLEGES	2,109.9	533.9	2,643.4	79.8	31.1	316	147	463	98.3	16.4
COMPREHENSIVE COLLEGES I	1,879.6	411.5	2,091.1	80.3	24.8	210	91	301	99.6	10.6
COMPREHENSIVE COLLEGES II	430.3	122.1	552.3	77.8	6.5	106	56	162	65.4	5.7
LIBERAL ARTS COLLEGES	34.6	643.9	678.5	5.1	8.0	27	678	703	3.8	24.8
SELECTIVITY I	0.0	156.5	156.5	0.0	1.8	0	121	121	0.0	4.3
SELECTIVITY II	34.6	487.4	522.1	6.7	6.1	27	555	582	4.6	20.6
TWO-YEAR INSTITUTIONS	2,214.0	139.8	2,347.8	94.3	27.6	805	256	1,061	75.9	37.3
SPECIALIZED INSTITUTIONS	104.9	183.9	288.5	36.4	3.4	84	272	436	14.7	15.4

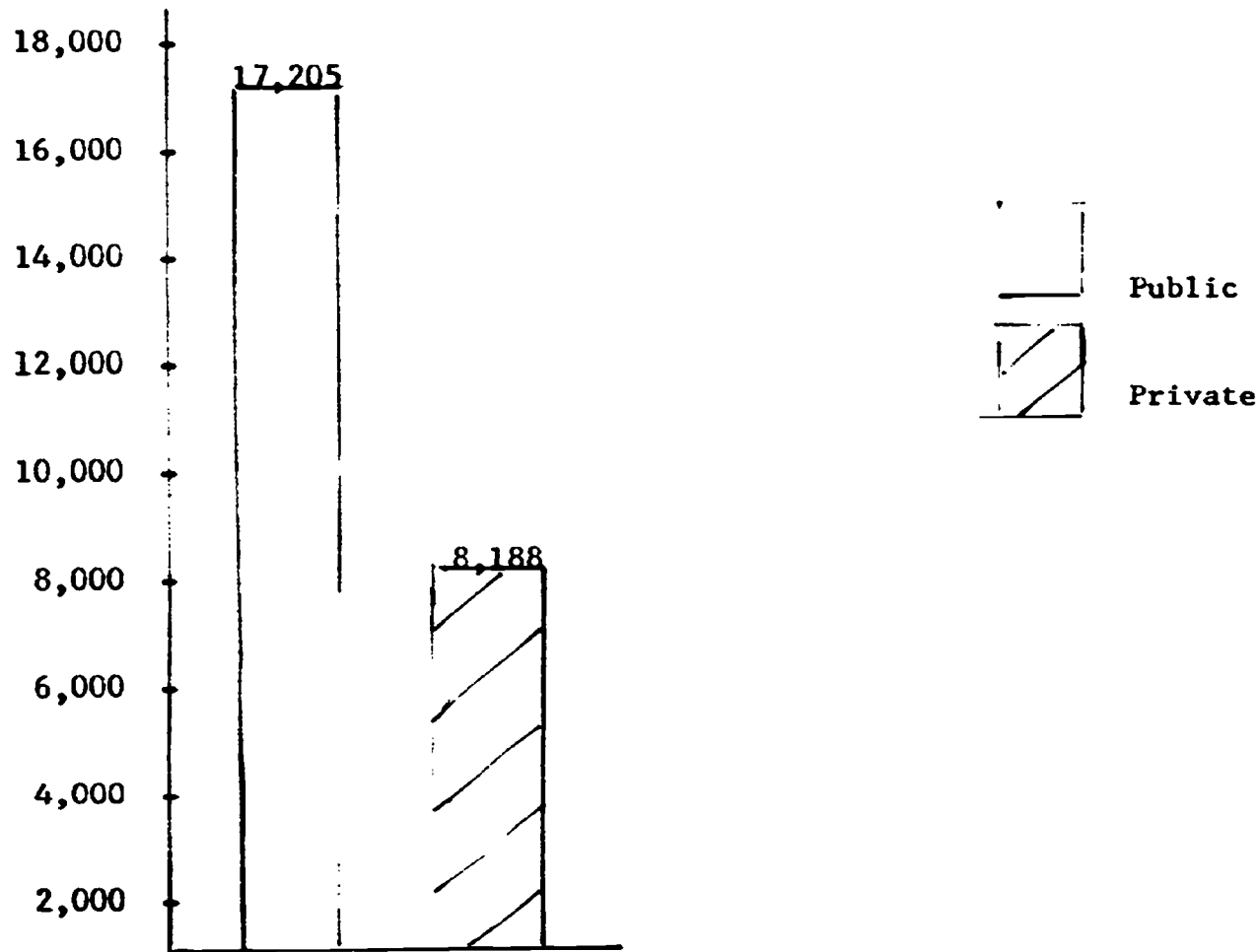
\* Excludes entrance enrollment separately reported by institutions, items may not add to totals because of rounding

SOURCE: Adapted from U.S. Department of Education data by the Carnegie Commission staff



MEDIAN TOTAL ENROLLMENT - 1970

(DOCTORAL-GRANTING INSTITUTIONS)



cf. 3.24 FTE ENROLLMENT - 1970 - #9 (68)  
cf. #9 (66) for figures on other types of institutions  
#9 (66)

# FTE ENROLLMENT - 1970

## (DOCTORAL-GRANTING INSTITUTIONS)

TABLE 7 Institutions of higher education, by type, control, and FTE enrollment, fall 1970

Enrollment	Doctoral-granting institutions	
	Public	Private
Total		
Number	101	63
Percent	100.0	100.0
0-249	—	1.6
250-499	—	—
500-999	—	1.6
1,000-1,499	—	3.2
1,500-1,999	—	1.6
2,000-2,499	—	1.6
2,500-2,999	—	3.2
3,000-4,999	3.0	19.0
5,000-7,499	13.9	22.2
7,500-9,999	11.9	20.6
10,000-14,999	21.8	15.9
15,000-19,999	26.7	3.2
20,000-29,999	14.8	—
30,000 or more	7.9	—
Median FTE enrollment	14,885	7,053

SOURCE: Data adapted by Carnegie Commission staff from U.S. Office of Education data.

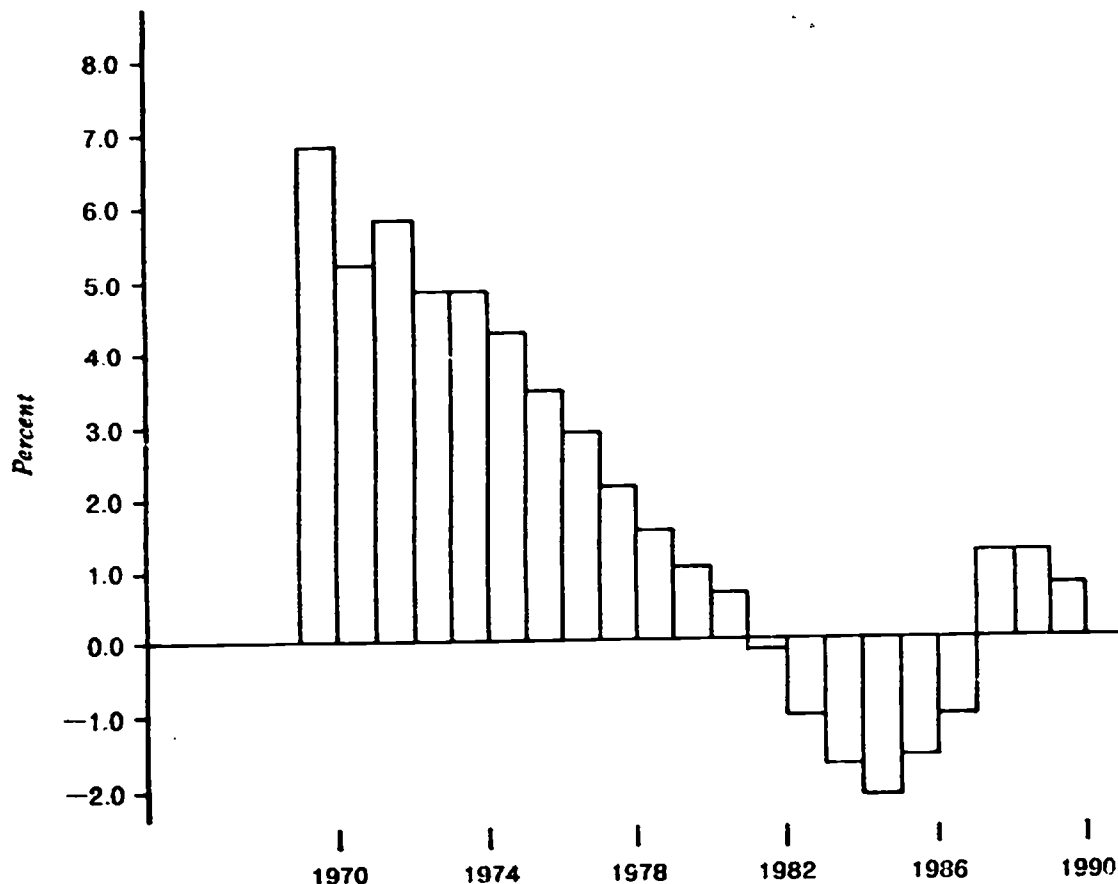
cf. 3.24 MEDIAN TOTAL ENROLLMENT - 1970 - #9 (66)

f. #9 (68) for figures on other types of institutions

# FTE ENROLLMENT - ACTUAL AND PROJECTED

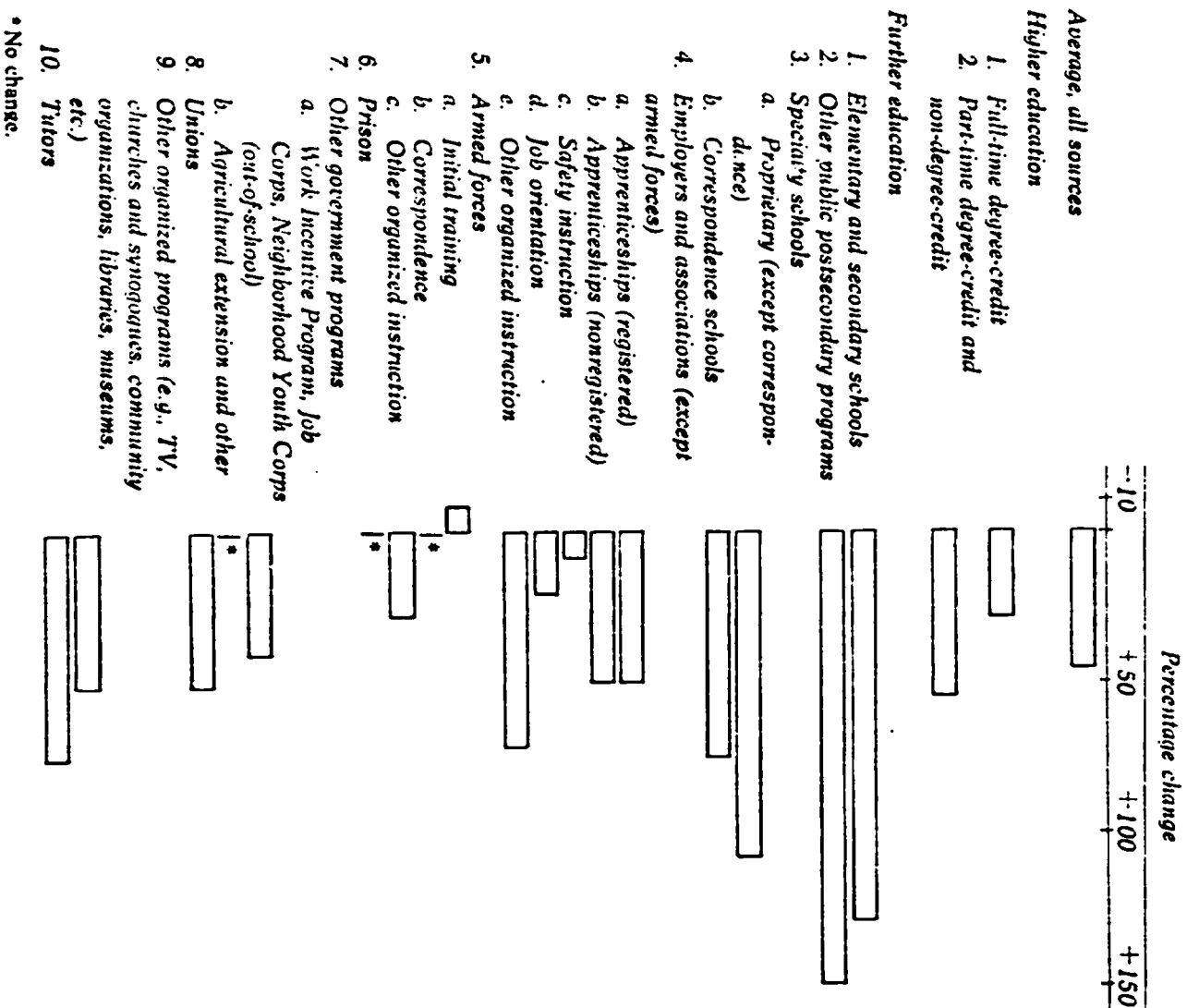
3.24

**CHART 5** Annual percentage change in full-time equivalent enrollment in higher education, actual, 1969-70, and projected, 1970-1990



**SOURCE:** Projections developed for the Carnegie Commission by Gus W. Haggstrom of the University of California, Berkeley. The projections have recently been revised (from 1986 on) to reflect the behavior of the birthrate in the last few years.

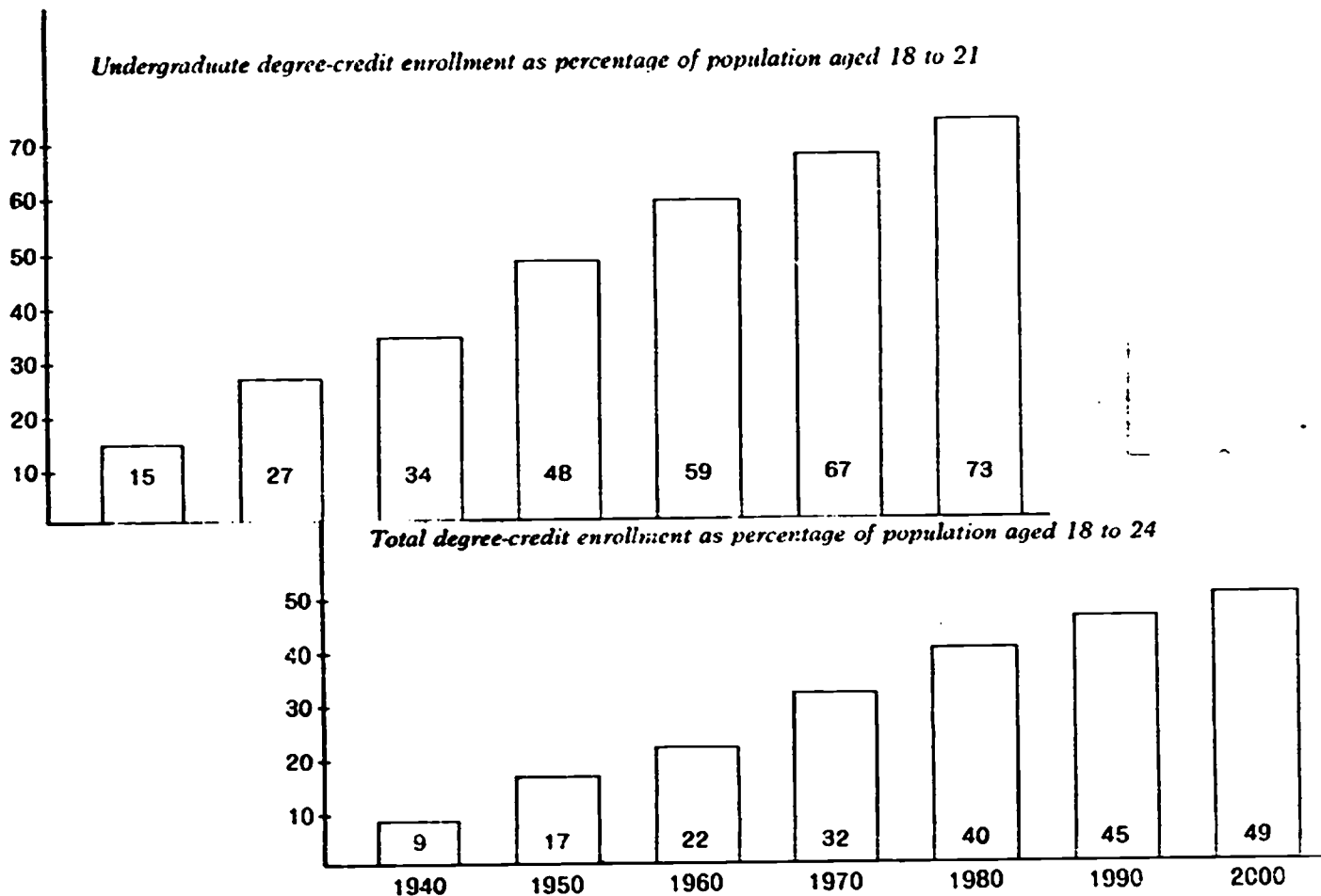
CHART 9 Estimated percentage changes in program enrollments, 1970 to 1980, in postsecondary education, by source



ESTIMATED PERCENTAGE CHANGES IN PROGRAM ENROLLMENTS (1970-1980)

# PERCENTAGE OF DEGREE-CREDIT ENROLLMENT

**CHART 3** Degree-credit enrollment as percentage of college-age population, 1940 to 1970, and projected, 1980 to 2000



#9 (15)

SOURCE: Appendix B, Tables 1 and 2.

# ENROLLMENT (ACTUAL AND PROJECTED) IN COMMUNITY COLLEGES AS PERCENT OF TOTAL UNDERGRADUATE ENROLLMENT AND TOTAL ENROLLMENT IN HIGHER EDUCATION

**TABLE 3**  
*Enrollment in two-year institutions of higher education, actual, 1968, and projections to 2000, in numbers and as a percentage of total undergraduate enrollment and total enrollment in higher education*

Year	Number		Percent of undergraduate enrollment		Percent of total enrollment	
	Projection B	Projection C	B	C	B	C
1968	1,870,000	1,870,000	29	29	25	25
1975	3,560,000	3,110,000	38	33	32	28
1980	4,430,000	3,740,000	41	35	34	28
1985	4,280,000	3,610,000	42	35	33	27
1990	4,380,000	3,690,000	42	35	33	28
1995	5,340,000	4,400,000	44	36	35	29
2000	6,620,000	5,340,000	46	37	36	29

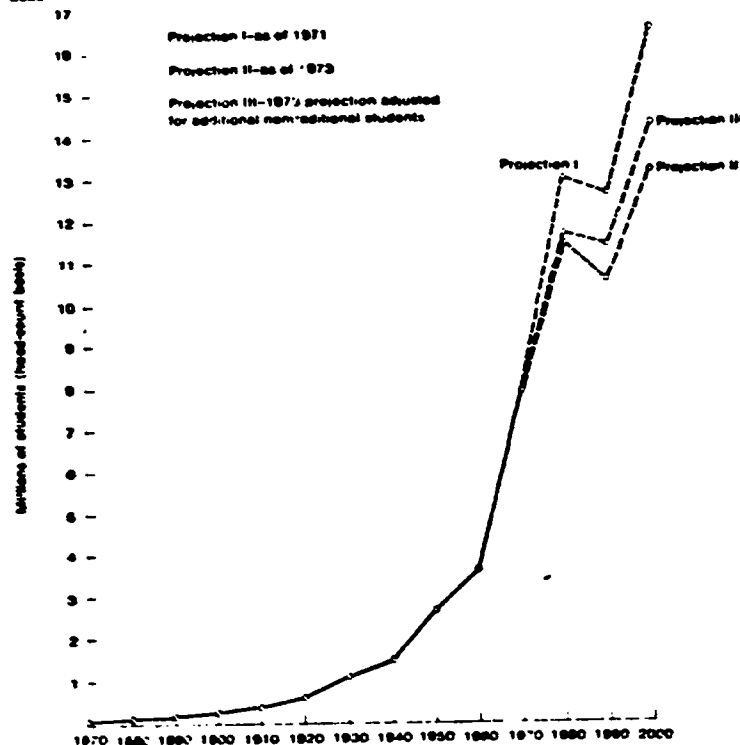
SOURCE: Carnegie Commission on Higher Education.

It is also important to keep in mind that, since adults represent about half of all two-year college students, total enroll-

# TOTAL ENROLLMENTS (ACTUAL AND PROJECTED)

3.24

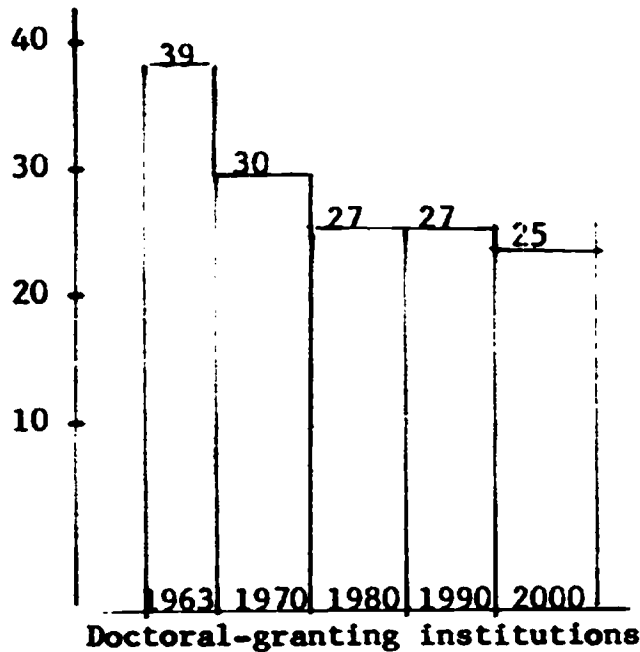
CHART 4 Total enrollments of students in higher education, actual to 1970 and estimated for 1980, 1990, 2000



SOURCE See Technical Note A and Appendix B: New Students and New Places. Enrollment data prior to 1980 exclude non-degree credit enrollment.

#22 (84)

# CHANGES IN DISTRIBUTION OF TOTAL ENROLLMENT



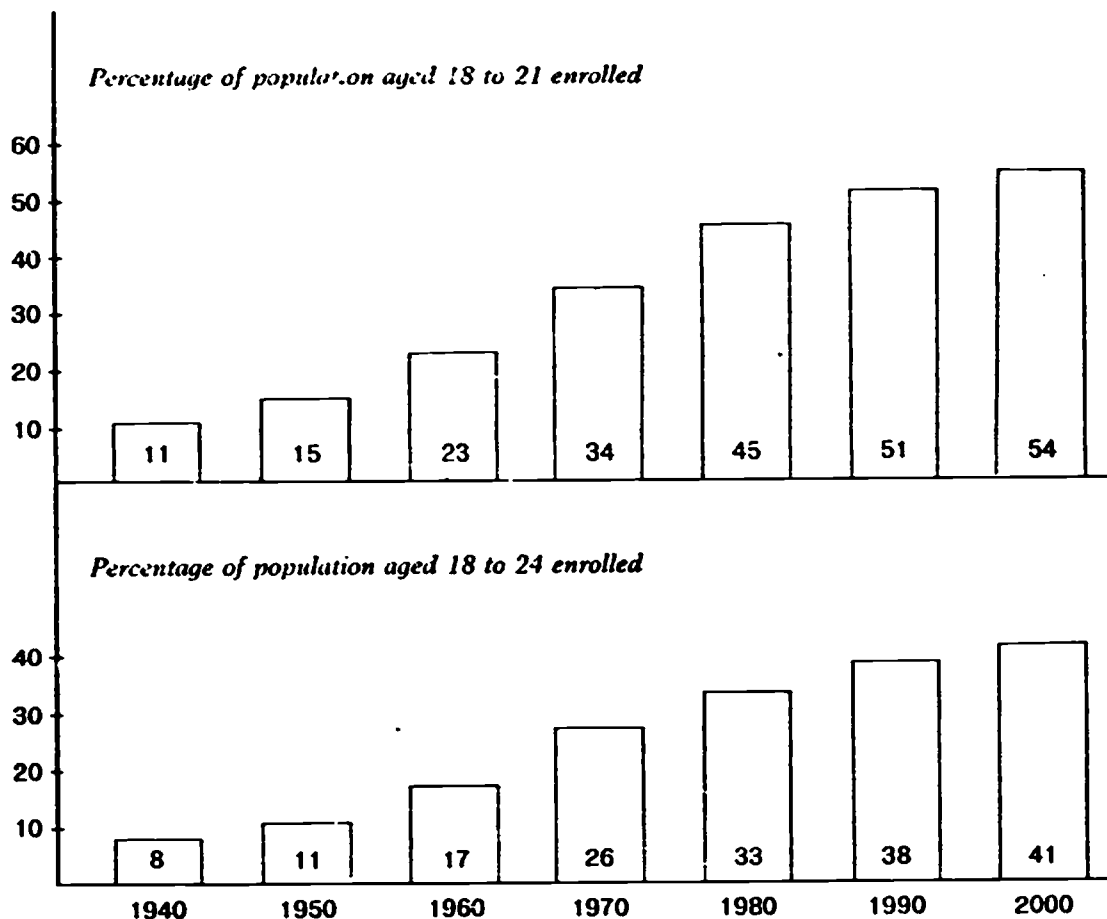
cf. #9 (46) for statistics for other types of institutions

#9 (42)



## ENROLLMENT PERCENTAGES

**CHART 2** *Percentage of the college-age population enrolled in degree-credit programs in higher education, 1940 to 1970, and projected, 1980 to 2000*



SOURCE: U.S. Bureau of the Census and projections developed by Carnegie Commission staff.

# UNDERGRADUATE AND POSTBACCALAUREATE ENROLLMENT - ACTUAL AND PROJECTED

TABLE B  
Undergraduate and  
postbaccalaureate  
enrollment, actual, 1970,  
and three  
alternative  
projections,  
1975 to 2000  
(numbers in  
thousands)

Year	Projection A				Projection B				Projection C			
	Under- graduate*	Post- baccalaureate*	Total†	Per- centage change	Under- graduate*	Post- baccalaureate*	Total†	Per- centage change	Under- graduate*	Post- baccalaureate*	Total†	Per- centage change
1970	7 285	1 213	8 498		7 300	1 198	8 498		7 313	1 185	8 498	
1975	9 656	1 862	11 518	36	9 656	1 716	11 372	24	9 656	1 587	11 243	32
1980	11 082	2 441	13 523	17	11 082	2 162	13 244	10	11 082	1 922	13 015	16
1985	10 544	2 773	13 317	-2	10 544	2 411	12 954	2	10 544	2 116	12 659	3
1990	10 587	2 749	13 336	5	10 587	2 371	12 958	5	10 587	2 066	12 654	5
1995	12 288	2 851	15 138	14	12 288	2 462	14 750	14	12 288	2 146	14 434	14
2000	14 123	3 235	17 358	15	14 123	2 738	16 921	15	14 123	2 436	16 559	15

\*Excludes most candidates for first professional degrees. Actual data for undergrad-  
uate and postbaccalaureate enrollment for 1970 are not yet available, although  
total enrollment is available. Data for postbaccalaureate enrollment presented here  
are based on our three alternative projections; undergraduate enrollment is the  
difference between total enrollment and estimated postbaccalaureate enrollment.

†Includes candidates for master's and doctor's, and most candidates for first profes-  
sional degrees.

‡Items may not add to totals because of rounding. Includes extension enrollment sep-  
arately reported. The data relate to the 50 states and the District of Columbia.

§Less than 0.5 percent.

S-4 R-6. Projections developed by the Carnegie Commission staff under the di-  
rection of Gus W. Haggstrom of the University of California.

**UNDERGRADUATE AND POSTBACCALAUREATE ENROLLMENT - 1968**

<i>Type of institution</i>	<i>Public</i>			
	<i>Under-graduate</i>	<i>Post-bacca-lunreute</i>	<i>Total</i>	<i>Percent post-bacca-lunreute</i>
<i>Total enrollment*</i>	<u>4,772.2</u>	<u>647.2</u>	<u>5,419.4</u>	<u>11.9</u>
<i>Doctoral-granting institutions</i>	<u>1,374.5</u>	<u>376.2</u>	<u>1,750.7</u>	<u>21.5</u>
<i>Heavy emphasis on research</i>	530.8	177.1	707.9	25.0
<i>Moderate emphasis on research</i>	418.1	112.8	530.9	21.2
<i>Moderate emphasis on doctoral programs</i>	225.4	47.1	272.5	17.3
<i>Limited emphasis on doctoral programs</i>	200.2	39.2	239.4	16.4
<i>Comprehensive colleges</i>	<u>1,571.0</u>	<u>235.7</u>	<u>1,806.7</u>	<u>13.0</u>
<i>Comprehensive colleges I</i>	1,263.4	180.4	1,443.8	12.5
<i>Comprehensive colleges II</i>	307.6	55.3	362.9	15.2
<i>Liberal arts colleges</i>	<u>21.4</u>	<u>0.6</u>	<u>22.0</u>	<u>2.8</u>
<i>Selectivity I</i>	0.0	0.0	0.0	0.0
<i>Selectivity II</i>	21.4	0.6	22.0	2.8
<i>Two-year institutions</i>	<u>1,745.1</u>	<u>3.2†</u>	<u>1,748.3</u>	<u>0.2‡</u>
<i>Specialized institutions</i>	<u>60.2</u>	<u>31.5</u>	<u>91.7</u>	<u>34.3</u>

\*Excludes extension enrollment; items may not add to totals because of rounding.

†Less than 0.05.

‡The presence of small numbers of graduate students in two-year institutions is explained by the fact that there are a few institutions which have predominantly two-year programs, but which also have upper-division and graduate programs in selected fields.

SOURCE: Adapted from U.S. Office of Education data by Carnegie Commission staff.

## INSTITUTIONAL ENROLLMENTS - 1970

Enrollment (in thousands)

Type of institution	Public	Private	Total	Percent public	Percent of total
Total*	6,364.4	2,132.0	8,496.2	74.9	100.0
Doctoral-granting institutions	1,900.8	636.9	2,537.7	74.9	29.9
Heavy emphasis on research	774.3	236.5	1,010.8	76.6	11.9
Moderate emphasis on research	579.2	155.1	734.5	78.9	8.6
Moderate emphasis on doctoral programs	278.8	135.6	414.4	67.3	4.9
Limited emphasis on doctoral programs	268.5	109.7	378.2	71.0	4.5
Comprehensive colleges	2,099.9	533.6	2,643.4	79.8	31.1
Comprehensive colleges I	1,679.6	411.5	2,091.1	80.3	24.6
Comprehensive colleges II	430.3	122.1	552.3	77.9	6.5
Liberal arts colleges	34.8	543.9	678.6	5.1	8.0
Selectivity I	0.0	156.5	156.5	0.0	1.8
Selectivity II	34.8	487.4	522.1	6.7	6.1
Two-year institutions	2,214.0	133.8	2,347.8	94.3	27.6
Specialized institutions	104.9	183.6	288.5	36.4	3.4

\*Excludes extension enrollment separately reported by institutions; items may not add to totals because of rounding.

SOURCE: Adapted from U.S. Office of Education data by the Carnegie Commission staff.

**Cf. #14 (123-135) Appendix A**

3.24

# MODIFIED ENROLLMENT PATTERNS

"For those metropolitan areas located entirely within the boundaries of one state, modification of the ratio of student spaces to population by out-of-state enrollment provides a somewhat more accurate measure of adequacy of resources for the metropolitan population . . ."

#14 (33)

HIGHER EDUCATION ENROLLMENT IN METROPOLITAN AREAS

Cf. #14 (137-150) Appendix B

ENROLLMENT PATTERNS IN METROPOLITAN AREAS

Cf. #14 (151-166) Appendix C



# ENROLLMENT AS A PERCENTAGE OF POPULATION IN METROPOLITAN AREAS

TABLE 1  
Enrollment as a  
percentage of  
population in  
metropolitan  
areas by  
geographic  
region

Region	Number of metropolitan areas in region	Average percent	Median percent	Range
<i>New England</i>	7			
<i>Total</i>		6.44	5.92	4.72-10.55
<i>Central city</i>		12.60	11.29	5.90-19.97
<i>Suburban</i>		2.99	3.26	0.55-4.87
<i>North Atlantic</i>	20			
<i>Total</i>		4.08	3.66	2.23-8.83
<i>Central city</i>		8.21	6.98	0.00-20.29
<i>Suburban</i>		2.34	2.57	0.37-6.43
<i>Southeast</i>	22			
<i>Total</i>		3.47	3.41	1.30-7.51
<i>Central city</i>		7.30	6.18	2.39-17.46
<i>Suburban</i>		0.75	0.44	0.00-3.47
<i>North Midwest</i>	17			
<i>Total</i>		4.16	3.38	1.52-13.83
<i>Central city</i>		8.32	6.55	3.06-39.82
<i>Suburban</i>		1.57	1.00	0.00-5.64
<i>Central</i>	6			
<i>Total</i>		3.48	3.56	2.35-4.90
<i>Central city</i>		6.35	5.50	3.12-10.39
<i>Suburban</i>		1.03	1.24	0.00-1.50
<i>Southwest and Mountain</i>	13			
<i>Total</i>		4.52	4.64	1.69-8.41
<i>Central city</i>		5.51	3.87	1.78-14.64
<i>Suburban</i>		2.97	0.46	0.00-12.04
<i>West</i>	14			
<i>Total</i>		5.68	5.22	3.01-8.40
<i>Central city</i>		10.81	10.23	3.40-18.44
<i>Suburban</i>		3.10	2.88	0.00-6.60

SOURCE: Compiled by Carnegie Commission staff.

# STUDENT PLACES

"The Carnegie Commission recommends that states having a ratio of less than 30 places in both public and private higher education in the state for every 100 eighteen-to-twenty-one-year olds in the state should take emergency measures to increase the availability of higher education in the state."

#5 (113)

# STUDENT SPACES PER 100 POPULATION

<i>Metropolitan area</i>	<i>Student spaces per 100 population</i>
<i>Canton, Ohio</i>	1.52
<i>Davenport-Rock Island-Moline, Iowa</i>	2.47
<i>Fort Lauderdale-Hollywood, Florida</i>	1.30
<i>Gary-Hammond-East Chicago, Indiana</i>	2.43
<i>Indianapolis, Indiana</i>	2.12
<i>Jacksonville, Florida</i>	2.32
<i>Kansas City, Missouri</i>	2.35
<i>Little Rock-North Little Rock, Arkansas</i>	1.89
<i>Louisville, Kentucky</i>	1.93
<i>Mobile, Alabama</i>	2.28
<i>Norfolk-Portsmouth, Virginia</i>	1.85
<i>Paterson-Clifton-Passaic, New Jersey</i>	2.23
<i>Tulsa, Oklahoma</i>	1.69

STUDENT SPACES

3.24

"Metropolitan areas that have a ratio of student places to population between 2.5 and 3.5 might be considered as having a marginal deficiency in total available resources."

Of. 3.24 RATIO OF STUDENT PLACES TO POPULATION - #14 (28)  
C. #757.

#14(28)

# METROPOLITAN AREAS MARGINALLY DEFICIENT IN TOTAL STUDENT PLACES

MAP 2: Metropolitan areas marginally deficient in total student places



SOURCE: Prepared by Carnegie Commission staff

STUDENT SPACES

3.24

"We (Carnegie Commission) believe, in the absence of unusual circumstances, that any metropolitan area that has fewer than 2.5 student spaces per 100 population is unlikely to be able to meet the educational needs of its residents."

Cf. 3.24 STUDENT SPACES PER 100 POPULATION - #14 (26) - C. #747.

#14. (26)

# METROPOLITAN AREAS ADEQUATE IN TOTAL STUDENT PLACES

MAP 1: Metropolitan areas deficient in total student places



SOURCE: Prepared by Carnegie Commission staff.

STUDENT PLACES

3.24

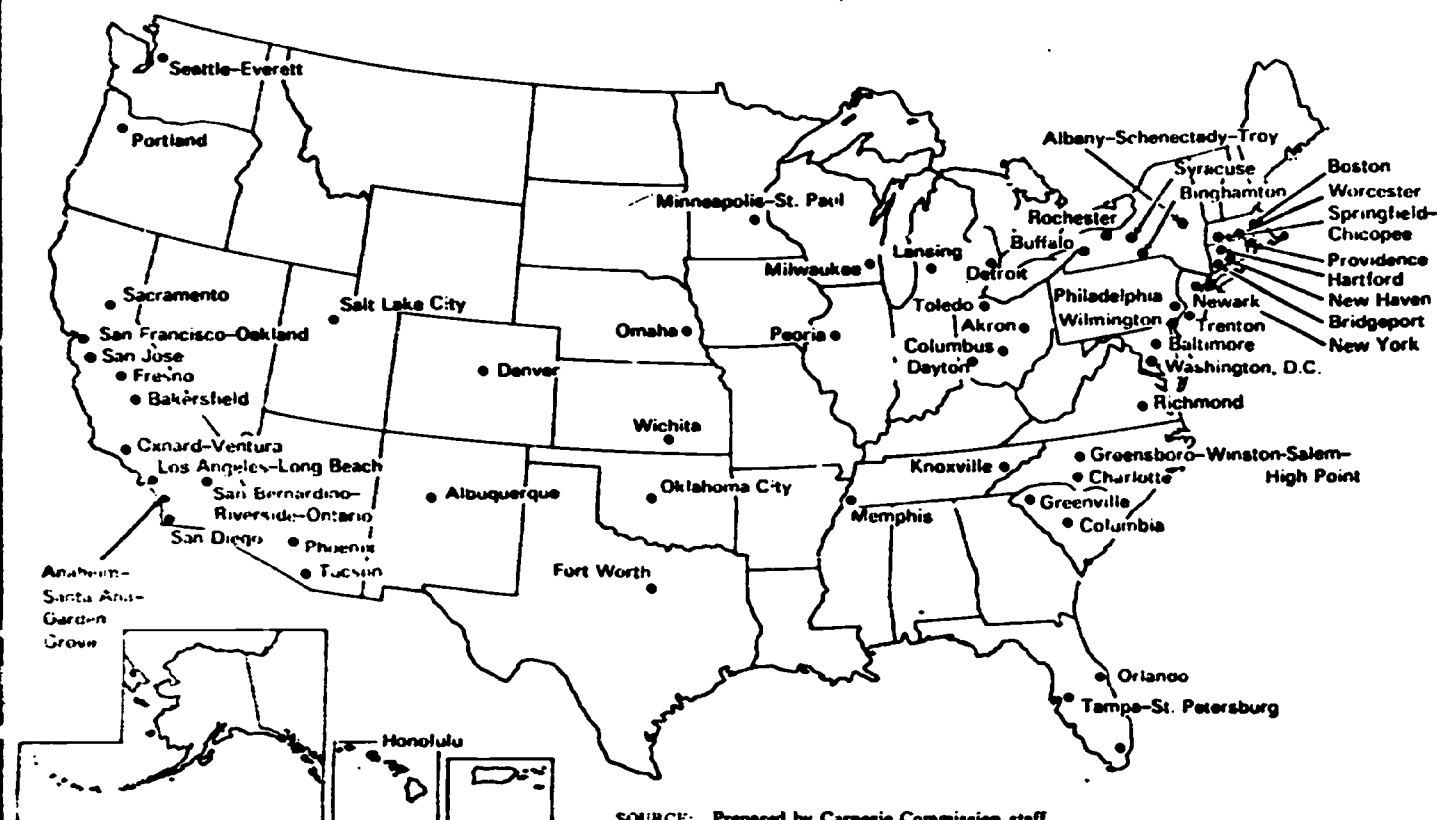
"WE (Carnegie Commission) recommend that appropriate state and local agencies take steps to improve availability of student places in colleges and universities in those areas which now have less than 2.5 places available per 100 population."

#14 ( 28)



# METROPOLITAN AREAS DEFICIENT IN TOTAL STUDENT PLACES

MAP 3: Metropolitan areas adequate in total student places



SOURCE: Prepared by Carnegie Commission staff.

PERCENTAGE OF DIFFERENT POPULATIONS WITHIN COMMUTING DISTANCE  
OF A FREE-ACCESS COLLEGE IN EACH METROPOLITAN AREA OF ONE  
MILLION OR MORE.

Cf. #14 (167-169) Appendix D

# PERCENTAGE ENROLLED IN COLLEGE BY MARITAL STATUS, AGE, & SEX

TABLE 3 Percentage of population aged 14 to 34, married, by age and sex, and percentage enrolled in college, by marital status, age, and sex, October 1971

Age	Men			Women		
	Percentage married	Percentage enrolled		Percentage married	Percentage enrolled	
		Nonmarried	Married		Nonmarried	Married
14 to 34 years	42.6	19.0	10.5	49.5	15.4	3.7
14 to 15	0.3	0.1		0.8	.	
16 to 17	0.7	3.2	3.6	4.4	4.0	2.3
18 to 19	7.7	43.7	12.2	20.1	41.8	4.9
20 to 21	24.5	43.8	19.1	43.5	38.6	9.0
22 to 24	53.8	29.6	16.6	66.5	15.7	4.0
25 to 29	76.0	15.1	10.5	79.3	7.5	2.9
30 to 34	85.0	6.3	6.0	82.3	6.4	2.5

Less than 0.05

Source: Computed from data in U.S. Bureau of the Census (1972a, p. 31).

# ENROLLMENT AS PERCENTAGE OF POPULATION

TABLE 12 Enrollment in institutions of higher education in the area as a percentage of population, large metropolitan areas,\* United States, 1968

Less than 2.2	2.2 to 3.2	3.2 to 4.2	4.2 to 5.2	5.2 and over
Paterson-	Bridgeport	Hartford	New Haven	Boston
Clifton-	Baltimore	Springfield	Washington, D.C.	Syracuse
Passaic	Jersey City	Worcester	Albany-	Akron
Gary-Hammond-	Newark	Providence	Schenectady-	Columbia
East Chicago			Troy	
Indianapolis	Allentown-	Buffalo	Rochester	Phoenix
Kansas City	Bethlehem-	New York	Toledo	Oklahoma City
Fort Lauderdale-	Easton	Philadelphia	Minneapolis-	Anaheim-
Hollywood	Pittsburgh	Dayton	St. Paul	Santa Ana-
Jacksonville	Chicago	Omaha	Memphis	Garden Grove
Louisville	Detroit	Miami	Fort Worth	Los Angeles-
	Grand Rapids			Long Beach
	Cincinnati	Greensboro-	Salt Lake City	Sacramento
	Cleveland	Winston-	San Bernardino	San Diego
	Youngstown-	Salem-High	Seattle-	San Francisco-
	Warren	Point	Everett	Oakland
	Richmond			San Jose
	Milwaukee	Denver		
	St. Louis	Honolulu		
	Birmingham	Portland		
	Tampa-St.			
	Petersburg			
	Atlanta			
	New Orleans			
	Nashville			
	Norfolk-			
	Portsmouth			
	Dallas			
	Houston			
	San Antonio			

\*Includes all metropolitan areas with estimated population of 500,000 or more in 1968.

SOURCE: Appendix B, Table 11.

RATIO OF STUDENT PLACES TO POPULATION

Metropolitan area	Ratio of student places to population
Allentown-Bethlehem-Easton, Pennsylvania	339
Atlanta, Georgia	337
Beaumont-Port Arthur-Orange, Texas	344
Birmingham, Alabama	274
Charleston, South Carolina	285
Chattanooga, Tennessee	277
Chicago, Illinois	338
Cincinnati, Ohio	316
Cleveland, Ohio	273
Dallas, Texas	326
El Paso, Texas	312
Flint, Michigan	273
Grand Rapids, Michigan	298
Harrisburg, Pennsylvania	324
Houston, Texas	327
Jersey City, New Jersey	284
Lancaster, Pennsylvania	319
Nashville, Tennessee	274
New Orleans, Louisiana	344
Pittsburgh, Pennsylvania	318
San Antonio, Texas	303
St. Louis, Missouri	327
Tacoma, Washington	301
Utica-Rome, New York	278
Wilkes-Barre-Scranton, Pennsylvania	281
Youngstown, Warren, Ohio	289

NOTE: The location of these areas is shown in Map 2.

# CENTRAL CITIES WITH DEFICIENCIES IN OPEN-ADMISSIONS PLACES

324

**TABLE 2**  
Central cities  
with deficiencies  
in open-  
admissions  
places located  
in metropolitan  
areas without  
deficiencies in  
total student  
places

Seriously deficient	Deficient	Marginally deficient
Akron, Ohio	Albany-Schenectady-Troy, N.Y.	Bridgeport, Conn.
Albuquerque, N.M.	Anaheim-Santa Ana-Garden Grove, Calif.	Los Angeles-Long Beach, Calif.
Baltimore, Md.	Buffalo, N.Y.	Phoenix, Ariz.
Binghamton, N.Y.	Detroit, Mich.	Portland, Ore.
Boston, Mass.	Fort Worth, Tex.	San Diego, Calif.
Columbia, S.C.	Honolulu, Hawaii	San Francisco-Oakland, Calif.
Columbus, Ohio	Kansas City, Mo.	Seattle-Everett, Wash.
Hartford, Conn.	Lansing, Mich.	Springfield-Chicopee-Holyoke, Mass.
Memphis, Tenn.	New Haven, Conn.	
Minneapolis, Minn.	Rochester, N.Y.	
Oklahoma City, Okla.	San Jose, Calif.	
Omaha, Nebr.	Syracuse, N.Y.	
Providence-Pawtucket-Warwick, R.I.	Trenton, N.J.	
Richmond, Va.	Tucson, Ariz.	
Salt Lake City, Utah	Worcester, Mass.	
Toledo, Ohio		
Washington, D.C.		
Wichita, Kans.		
Wilmington, Del.		

# PERCENTAGE OF PERSONS (14-34) ENROLLED IN DEGREE-CREDIT PROGRAMS

TABLE 1 Percentage of persons aged 14 to 34 enrolled in degree-credit programs in college by age, race, and sex, October 1967, 1969, and 1972

Race and age	Percentage enrolled					
	Men			Women		
	1967	1969	1972	1967	1969	1972
<b>White</b>						
Total, 14 to 34 years	15.0	16.4	15.2	9.0	9.7	10.2
14 to 17	1.4	1.6	1.7	2.2	1.7	2.0
18 to 19	43.7	47.3	39.6	33.7	35.8	35.6
20 to 21	45.5	47.3	37.5	23.7	24.6	26.8
22 to 24	21.1	23.5	21.0	6.7	9.1	8.7
25 to 29	9.9	11.7	12.4	2.8	3.7	5.0
30 to 34	4.8	5.4	5.7	2.3	3.0	2.9
<b>Black</b>						
Total, 14 to 34 years	6.7	7.3	10.4	4.9	6.8	8.1
14 to 17	0.8	1.0	1.7	1.0	0.9	1.3
18 to 19	21.8	21.7	23.0	14.8	24.3	24.7
20 to 21	19.6	24.8	24.0	13.4	17.4	16.4
22 to 24	8.3	9.2	17.1	4.1	4.5	7.8
25 to 29	2.7	2.4	7.3	3.9	3.4	4.6
30 to 34	2.2	1.9	5.2	0.7	2.6	5.2

SOURCES: U.S. Bureau of the Census (1969, 1970; tables for 1972 provided in advance of publication).

ESTIMATED NUMBER OF PROGRAM AND FTE ENROLLMENTS IN HIGHER EDUCATION (1970)

**TABLE 5**  
*Estimated  
 number of  
 program  
 enrollments  
 and FTE  
 enrollments  
 beyond regular  
 elementary  
 and secondary  
 education, by  
 source, 1970*

Source	Program enrollments		FTE enrollments	
	Number* (thousands)	Percent <sup>a</sup>	Number‡ (thousands)	Percent <sup>a</sup>
Total, higher education and other postsecondary education	73,900†	100.0	17,600	100.0
Higher education				
1. Colleges and uni- versities (full-time degree credit)	8,900	12.1	8,900	50.6
2. Colleges and uni- versities (part-time degree-credit and non-degree credit)	6,300	8.5	1,950	11.1

cf. #21 (35-36) for other postsecondary education sources





RATIO OF GRADUATE ENROLLMENT TO TOTAL ENROLLMENT

In Doctoral-granting institutions, studies by the Carnegie Commission revealed that "the ratio of graduate enrollment to total enrollment is relatively high in all size classes and shows no consistent pattern of change with increasing size."

cf. 3.22 FACULTY-STUDENT RATIOS - #9 (71) for related information - C. #635

#9 (71)

**ACTUAL AND PROJECTED ENROLLMENT**

c.f. 3.24 **ACTUAL AND PROJECTED PERCENTAGE OF CHANGE IN ENROLLMENT** -#9(137)

<i>Type of institution</i>	<i>1970</i>	<i>1980</i>	<i>1990</i>	<i>2000</i>
<i>Total*</i>	<u>8,494</u>	<u>12,977</u>	<u>12,618</u>	<u>16,505</u>
<i>Doctoral-granting institutions</i>	<u>2,537</u>	<u>3,471</u>	<u>3,361</u>	<u>4,205</u>
<i>Heavy emphasis on research</i>	<u>1,011</u>	<u>1,288</u>	<u>1,244</u>	<u>1,506</u>
<i>Moderate emphasis on research</i>	<u>734</u>	<u>1,036</u>	<u>1,004</u>	<u>1,273</u>
<i>Moderate emphasis on doctoral programs</i>	<u>414</u>	<u>568</u>	<u>550</u>	<u>688</u>
<i>Limited emphasis on doctoral programs</i>	<u>378</u>	<u>579</u>	<u>563</u>	<u>738</u>
<i>Comprehensive colleges</i>	<u>2,643</u>	<u>4,171</u>	<u>4,060</u>	<u>5,375</u>
<i>Comprehensive colleges I</i>	<u>2,091</u>	<u>3,283</u>	<u>2,195</u>	<u>4,222</u>
<i>Comprehensive colleges II</i>	<u>552</u>	<u>888</u>	<u>865</u>	<u>1,153</u>
<i>Liberal arts colleges</i>	<u>678</u>	<u>898</u>	<u>868</u>	<u>1,070</u>
<i>Selectivity I</i>	<u>156</u>	<u>194</u>	<u>187</u>	<u>223</u>
<i>Selectivity II</i>	<u>522</u>	<u>704</u>	<u>681</u>	<u>847</u>
<i>Two-year institutions</i>	<u>2,348</u>	<u>3,994</u>	<u>3,898</u>	<u>5,291</u>
<i>Specialized institutions</i>	<u>288</u>	<u>43</u>	<u>431</u>	<u>564</u>

\*Excludes extension enrollment reported separately by institutions; the data relate to the 50 states and the District of Columbia, excluding outlying territories.

SOURCE: Adapted from U.S. Office of Education data by the Carnegie Commission staff.

# ESTIMATED PROGRAM ENROLLMENTS AND COSTS

3.24

TABLE 6  
Estimated  
number of  
program  
enrollments  
and selected  
measures of  
costs associated  
with organized  
education and  
training beyond  
regular  
elementary and  
secondary  
education, by  
source, 1970

Source	enrollments and selected measures of costs associated with organized education and training beyond regular elementary and secondary education, by source, 1970	Estimated cost of instructional services†				Estimated value of forgone earnings or production (millions of dollars)	Estimated economic costs‡		
		Number of program enrollments* (thousands)	Total (millions of dollars)	Per program enrollment Percent	Per enrollee manhour		Per program enrollment in 1970	Per enrollee manhour	
Total, higher and postsecondary education		73,800†	\$28,453	100.0	\$386	\$4.13	\$34,388	\$852	\$9.12
Higher education									
1. Colleges and universities (full-time degree-credit)		8,900	15,412	54.2	1,736	4.44	22,526	4,272	10.93
2. Colleges and universities (part-time degree-credit and non-degree-credit)		6,300	2,282	8.0	360	3.00	2,685	783	6.53

cf. #21 (38-39-40) for other postsecondary education sources

#21 (38-39)

# ENROLLMENT TRENDS (1971)

The enrollment survey conducted by the Carnegie Commission in 1971 indicated that "declines in first-time enrollment in four-year colleges were occurring among white males, while very modest increases were occurring among white females; enrollment of blacks and members of other minority groups was increasing sharply, continuing the marked upward trend that began in the mid-1960s."

# FIRST-TIME ENROLLMENT TRENDS - GRADUATE SCHOOLS

Both the Council of Graduate Schools and the Carnegie Commission have conducted enrollment surveys which reveal that "very little of the gain in first-time enrollment was going to the universities." Public universities showed a gain in first-time enrollment of only 1.4 percent, as compared with an increase of 10.7 percent in public four-year colleges (offering the master's as the highest degree) and 6.1 percent in private four-year colleges

#15 (149)

7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1  
30 32 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1

- 767 -

3.24

ENROLLMENT AT RESEARCH INSTITUTIONS

"Between 1963 and 1970, doctoral-granting institutions experience a considerably less rapid increase in enrollment (36 percent) than did higher education as a whole (78 percent), and their share of total enrollment fell from 39 to 30 percent. Moreover, enrollment in the institutions with heavy emphasis on research was growing less rapidly than it was at other doctoral-granting institutions."

#9 (19)

# ENROLLMENT GROWTH IN DOCTORAL-GRANTING INSTITUTIONS

The Carnegie Commission notes that "the projections suggest that the most slowly growing group of institutions will be the doctoral-granting institutions, although they will experience a substantial 37 percent increase in enrollment. But their share of the total is likely to fall from 30 to about 27 percent. Moreover, the more prestigious the institution, the less rapid the rate of enrollment growth is likely to be..."

#9 (45)



PROJECTED PORTION OF POSTSECONDARY EDUCATION

"Higher education will expand in total enrollments in the 1970s, and then decrease in the 1980s; and it will be an increasingly smaller proportion of postsecondary education as further education expands more rapidly."

#21 (11)

# ENROLLMENT PATTERNS

"The Carnegie Commission's fall 1971 enrollment survey revealed pronounced shifts in enrollment patterns by field between 1970 and 1971 that were influenced not only by job market shifts but also by growing concern of students about ecology, urban problems, and other social issues."

#1 5(164)

**7**  
**R2**

## GRADUATE ENROLLMENTS

The Carnegie Commission notes that "graduate enrollment has been rising at a more rapid rate than undergraduate enrollment throughout the present century."

**#9 (13)**

Enrollment

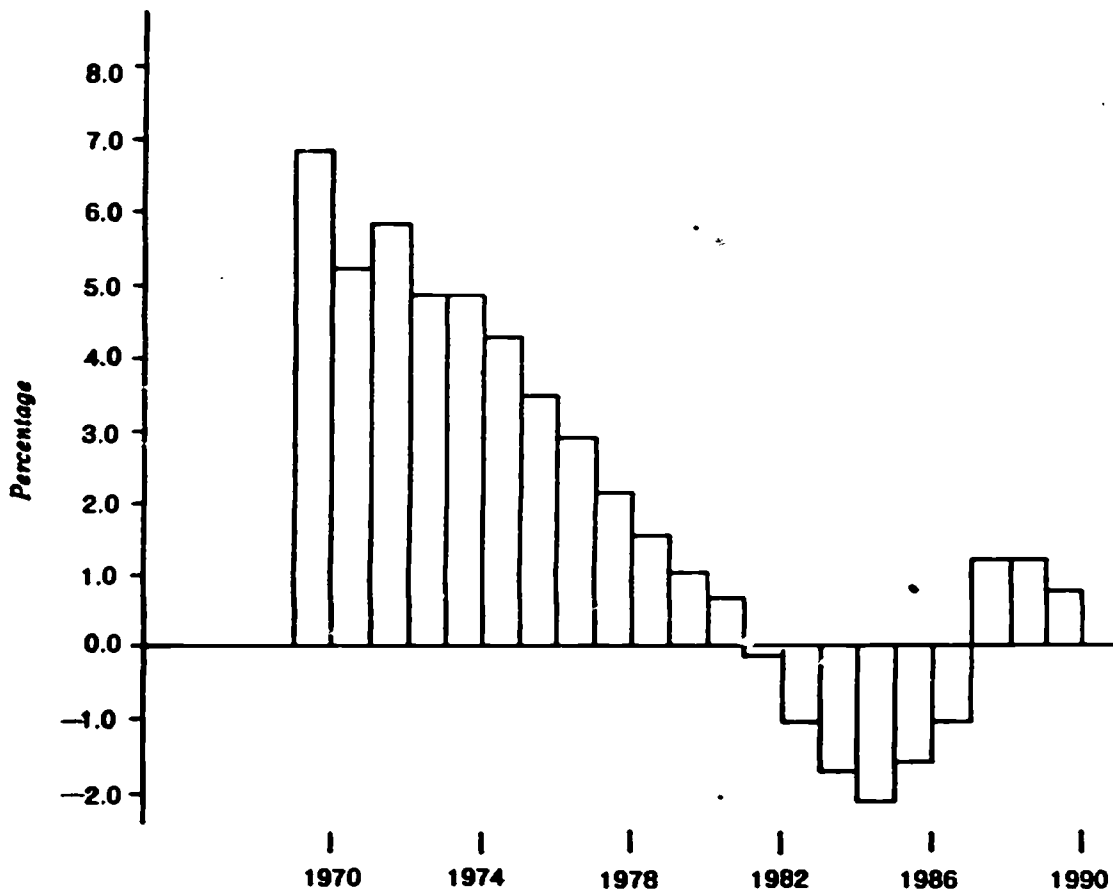
"Windfall" changes which the Commission suggests be accepted to produce savings include:

"Enrollments will continue to shift in the direction of two-year colleges with some cost savings."

#12 (18)

# ACTUAL AND PROJECTED ANNUAL PERCENTAGE CHANGE IN FULL-TIME-EQUIVALENT ENROLLMENT IN HIGHER EDUCATION

CHART 23 Annual percentage change in full-time-equivalent enrollment in higher education, actual, 1969-70, and projected, 1970-1990



SOURCE: Projections developed for the Carnegie Commission by Gus W. Heggstrom of the Rand Corporation, formerly a member of the faculty of the University of California, Berkeley. The projections were revised (from 1986 on) in the spring of 1972 to reflect the behavior of the birthrate in the last few years.

## PREDICTED ENROLLMENTS

We predict, nevertheless, the following enrollments, first on the basis of past and current trends and, second, on the basis of prospective trends reflecting new policies and developments:

### *Past and current trends:*

<i>Year</i>	<i>Total enrollments</i>
1970	8,500,000
1980	13,500,000
1990	13,300,000
2000	17,400,000

### *Prospective trends:*

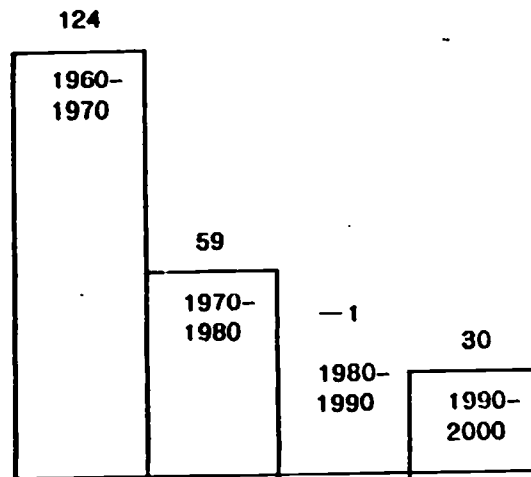
<i>Year</i>	<i>Total enrollments</i>
1970	8,500,000
1980	12,500,000
1990	12,300,000
2000	16,000,000

#9 (4)

# CHANGES IN ENROLLMENT

<i>Decade</i>	<i>Changes in enrollments</i>
1960-1970	Doubled
1970-1980	Increase by one-half
1980-1990	None
1990-2000	Increase by one-third

*Percentage  
change in  
enrollments  
in accordance  
with past trends*



#9 (1)

IMPLICATIONS OF NEW TECHNOLOGY ON ENROLLMENTS

The Carnegie Commission predicts that, as the result of new informational technology, "fewer students may study on campus, and more may elect to pursue their studies off campus and get credit by examination. This will reduce enrollments below the levels they otherwise would reach."

#11 (4)



# EFFECT OF COMMUNITY COLLEGE GROWTH ON OTHER INSTITUTIONS

The Carnegie Commission offers the possibility that the community college movement may stimulate an increase in the number of institutions offering only upper-division work for undergraduates and thus specifically designed to admit transfers from two-year colleges.

cf. 3.24 EFFECT OF COMMUNITY COLLEGE GROWTH ON OTHER INSTITUTIONS - #9 (56)  
C.#782-for alternate result

#9 (22)

1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1  
33 32 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1

176 3.24

EFFECT OF COMMUNITY COLLEGES ON ATTENDANCE AT OTHER INSTITUTIONS

The Carnegie Commission anticipates that "prospectively more than 95 percent of all Americans will be within commuting distance of a community college."

#3 (1)

ENROLLMENT

Of interest to those institutions within commuting distance of a community college is the Carnegie Commission's recommendation that "state plans should provide for community colleges generally ranging in size from about 2,000 to 5,000 daytime students...

#3 (31)

# ENROLLMENT GOALS FOR COMMUNITY COLLEGES

Of interest to state universities planning enrollment prediction is the Carnegie Commission's enrollment goals for community colleges:

- . by 1980 - 35 to 40 percent of all undergraduate students enrolled in community colleges
- . by 2000 - 40 to 45 percent of all undergraduate students enrolled in community colleges

#3 (52)

# ENROLLMENT AT COMMUNITY COLLEGES

Conclusions about enrollment predictions for institutions of higher education can be deduced from the Commission prediction that "...by the year 2000, enrollment in community colleges will be substantially above its present level and will account for an even higher proportion of undergraduate enrollment than it does today."

#3 (6)

# EFFECT OF COMMUNITY COLLEGE GROWTH ON OTHER INSTITUTIONS

The Carnegie Commission expresses concern about "...whether the rapidly rising percentage of total enrollment in community colleges, and especially of enrollment in their occupational programs, is likely to result sooner or later in a decline in the proportion of undergraduates who go on to upper-division work." The Commission continues to observe that national retention rates increased between 1958-62 and 1965-69, but the Commission warns that "state-to-state variations are very wide..."

cf. 3.24 EFFECT OF COMMUNITY COLLEGE GROWTH ON OTHER INSTITUTIONS -#9 (22)-  
C. #777 - for alternate result

#9 (56)



# ESTIMATED AND PROJECTED NUMBER OF PROGRAM ENROLLMENTS

3.24

**TABLE 7**  
**Estimated**  
**and projected**  
**number of**  
**program**  
**enrollments**  
**beyond regular**  
**elementary and**  
**secondary**  
**education, by**  
**source,**  
**1970-80\***  
**(numbers in**  
**thousands)**

Source	1970	1980	Percentage change, 1970-80
Total, regular and adults†	73,800	108,200	47
Higher education			
1. Colleges and universities (full-time degree credit)	8,900	11,500	29
2. Colleges and universities (part- time degree credit and non- degree credit)	6,300	9,800	56

cf. #21 (46-47) for other postsecondary sources

#21 (46)



# SUMMARY OF THE ESTIMATED EFFECTS ON TOTAL ENROLLMENT - 1980

**TABLE 4** Summary of the estimated effects of selected Carnegie Commission recommendations and labor market influences on total enrollment by 1980 (numbers in thousands)

Recommendation or other influence	Projection A (total enrollment)	Effect on enrollment	Revised projection
Student aid and more widespread availability of community colleges and comprehensive colleges	13,500	+ 600 to + 900	14,100 to 14,400
A three-year B.A.		- 1,000 to - 1,500	12,000 to 12,500
Reduction in upper-division enrollment because of accelerated shift to two-year colleges		- 600	12,900
Increased emphasis on adult education		+ 250 to + 300	13,750 to 13,800
Influences depressing graduate enrollment		- 280 to - 500	13,000 to 13,220
Net effect		- 680 to - 1,750	11,750 to 12,820

SOURCE: Estimates developed by Carnegie Commission staff.

cf. 3.31 TOTAL CONSTRUCTION COSTS - #9 (62) for related construction figures  
C. #876.

# SUMMARY OF THE ESTIMATED EFFECTS ON ENROLLMENT - 2000

**TABLE 6** Summary of the estimated effects of selected Carnegie Commission recommendations and other market influences on total enrollment by 2000 (numbers in thousands)

<i>Recommendation or other influence</i>	<i>Projection A (total enrollment)</i>	<i>Effect on enrollment</i>	<i>Revised projection</i>
Student aid and more widespread availability of community colleges and comprehensive colleges	17,400	+ 730 to + 1,100	18,130 to 18,500
A three-year B.A.		- 1,200 to - 1,800	15,290 to 16,000
Reduction in upper-division enrollment because of accelerated shift to two-year colleges		- 800	16,600
Increased emphasis on adult education		+ 1,000	18,400
Influences depressing graduate enrollment		- 440 to - 800	16,520 to 16,960
Net effect		- 340 to - 1,670	15,730 to 17,060

SOURCE: Estimates developed by Carnegie Commission staff.

# ENROLLMENT - EFFECTS OF JOB MARKET FOR COLLEGE GRADUATES

The Carnegie Commission notes that "Unusual shifts in patterns of enrollment ...are occurring, and there are some indications that the less favorable job market for college graduates may be playing a role, along with other factors, in discouraging some high school graduates from entering college."

Cf. 3.1 EFFECTS OF VARIOUS ENROLLMENT DEFINITIONS ON ALLOCATIONS - #10 (20)- c. #392.

EFFECTS ON ENROLLMENT OF INCREASED STUDENT FINANCIAL SUPPORT

- cf. 8.4 INCREASED STUDENT FINANCIAL SUPPORT FOR LOW-INCOME STUDENTS - #9 (49)  
The Carnegie Commission recognizes the significant effect on enrollment of increased student financial support for the low-income students Card #1419.

# SUMMARY OF THE ESTIMATED EFFECTS ON ENROLLMENT - 1990

**TABLE 5** *Summary of the estimated effects of selected Carnegie Commission recommendations and labor market influences on total enrollment by 1990 (numbers in thousands)*

<i>Recommendation or other influence</i>	<i>Projection A (total enrollment)</i>	<i>Effect on enrollment</i>	<i>Revised projection</i>
<i>Student aid and more widespread availability of community colleges and comprehensive colleges</i>	13,300	+ 600 to + 900	13,900 to 14,200
<i>A three-year B.A.</i>		- 930 to - 1,400	11,900 to 12,370
<i>Reduction in upper-division enrollment because of accelerated shift to two-year colleges</i>		- 600	12,700
<i>Increased emphasis on adult education</i>		+ 500 to + 600	13,800 to 13,900
<i>Influences depressing graduate enrollment</i>		- 380 to - 680	12,620 to 12,920
<i>Net effect</i>		- 410 to - 1,580	11,720 to 12,890

SOURCE: Estimates developed by Carnegie Commission staff.

- 791 -

3.24

PROJECTED DECLINE IN ENROLLMENT

Cf. 4:11/ NEED FOR REVISED ESTIMATES OF ENROLLMENT IN UNDERGRADUATE AND  
GRADUATE PROGRAMS OF EDUCATION - #15 (80) - C. # 975 for Commission  
recommendation that "revised estimates of supply. . .take account  
of declining enrollment."

LITTON 400 - 1000

# DECLINING ENROLLMENT - EFFECTS ON RESOURCES MANAGEMENT

Cf. 3.2 MANAGING HUMAN RESOURCES IN A PERIOD OF DECLINING GROWTH - #12  
(116-117) - Card #534.



3.24

DECLINING ENROLLMENTS

Cf. 3.24 RETENTION AND THE CAPTIVE AUDIENCE - #12 (59) -C. #842 for  
recommenda. of Commission which will add to declining  
enrollment statistics.

**PERCENTAGE OF CHANGE IN ENROLLMENT - ACTUAL AND PROJECTED**  
**cf. 3.24 ACTUAL AND PROJECTED ENROLLMENT - #9 (136-137)**

Type of institution	Percentage change, 1970-1980	Percentage of total, 1980	Percent public 1980
Total*	53	100	79
Doctoral-granting institutions	37	27	79
Heavy emphasis on research	27	10	82
Moderate emphasis on research	41	8	85
Moderate emphasis on doctoral programs	37	4	69
Limited emphasis on doctoral programs	53	5	74
Comprehensive colleges	58	32	84
Comprehensive colleges I	57	25	84
Comprehensive colleges II	61	7	83
Liberal arts colleges	32	7	5
Selectivity I	24	2	0
Selectivity II	35	5	7
Two-year institutions	70	31	96
Specialized institutions	54	3	40

\*Excludes extension enrollment reported separately by institutions; the data relate to the 50 states and the District of Columbia, excluding outlying territories.

SOURCE: Adapted from U.S. Office of Education data by the Carnegie Commission staff.

ADMISSION POLICIES

The Carnegie Commission recommends that "Both public and private institutions should give careful attention to admissions policies suitable to an era characterized by universal access to the total system of higher education and by a no-growth enrollment trend. Public agencies, including coordinating councils and state planning commissions, should determine general policies on student admissions within state systems, including policies with respect to number of places, equality of access by race, age, and sex, and the level of academic admissibility among types of institutions. Decisions on individual students should be left to each campus."

#19 (39)

# ADMISSION POLICIES

The carnegie Commission reinforces the selectivity of the admission policies now in effect at four-year institutions and universities; at the same time the Commission favors universal access by recommending "that all states enact legislation providing admission to public community colleges of all applicants who are high school graduates or are persons over 18 years of age who are capable of benefiting from continuing education."

Cf. Cards #29, #30, #31 for additional notes on UNIVERSAL ACCESS

#3 (15)

# ADMISSIONS POLICIES

The Carnegie Commission recommends that "Colleges should closely examine their admissions policies with respect to sex, race, and age. They should then be certain that their admissions practices implement those policies that relate to social justice in higher education. Separate prediction equations for men and women, minority students, and adults should be developed and where feasible, differential prediction by general field of study should be used."

#19 (46)

ADMISSION POLICIES

The Carnegie Commission recommends that "Colleges should develop admissions programs to seek out new constituencies, including high school juniors as well as adults and transfers from two-year colleges."

#19 (40)

# ADMISSION POLICIES - RECOGNITION OF DIVERSITY

The Carnegie Commission recommends that "Admission policies should be examined to assure that they serve both the cause of diversity within higher education and also the possibilities for diversity at the high school level."

cf. 2.3 ACCREDITATION - #13 (40) for recognition that diversity causes problems in accreditation -C. #259.

#13 (40)

ADMISSIONS REQUIREMENTS AND POLICIES

cf. 3.25 SUGGESTED WORK EXPERIENCE - #6 (28)- C. #868  
3.25 INNOVATIVE ADMISSIONS POLICY - #6 (27) - C. #862.



COLLEGE ADMISSIONS PRACTICES - EXPERIMENTATION ENCOURAGED

The Carnegie Commission recommends that "Experimentation with college admissions practices should be encouraged. In particular, more experimentation is needed to determine the quality of testing as a basis for admission and placement, the importance of student motivation and life experience as indicators of promise, and the feasibility of deferred admissions as a means of providing educational flexibility for students."

#19 (52)

QUOTAS

3.24

In regard to quotas, the Carnegie Commission states,  
"We are opposed to quotas and to a lottery system.  
We do not think that all categories of persons necessarily  
should be equally represented in all activities.  
People do not all want to do the same things nor are  
they all equally qualified to do them, but they should  
have equal chances to satisfy their interests and to  
qualify for consideration."

#17 (33)

ADMISSIONS MATERIAL

The Carnegie Commission notes that "Often more concerned with image than reality, college brochures and admissions materials are insufficiently descriptive of the college, its programs, faculty, and students."

#19 (47)

# ADMISSION RECORDS - GRADUATE AND PROFESSIONAL SCHOOLS

"Departments and schools should be required to maintain complete records on all applicants for admission to graduate and professional education and to make these records available to administrative officers on request. They should also be required to maintain records indicating that, in any programs designed to recruit able graduate students, equal efforts have been made to recruit women as well as men, for example, through letters or circulars addressed to departments in women's colleges as well as to those in male and coeducational institutions."

COOPERATIVE ADMISSION PROCESSES

Cf. 3.25 INNOVATIVE COOPERATIVE ADMISSION POLICIES - #19 (4) - C. # 870.

3.25 CLEARINGHOUSE ADMISSIONS OPERATIONS - #19 (52) - C. # 871.

ADMISSIONS IN A TIME OF UNIVERSAL ACCESS

The Carnegie Commission notes that "The community college will be the single main route to universal access to higher education. Increasingly the problems of admissions will center on students transferring from two-year to four-year colleges."

#19 (3)

QUALITIES OF THOSE ADMITTED TO INSTITUTION OF HIGHER EDUCATION

cf. 1.0 UNIVERSAL ACCESS - #2 (11) for qualities which substantiate right of citizen to universal access in regard to institutions of higher education. Card #31.

# ADMISSIONS CRITERIA - SEX BIAS

'There should be no discrimination on the basis of sex in the use of either high school grades or test scores as admissions criteria.'

#20 (57)



# ADULT ADMISSIONS

"Policies that prevent part-time study or that discriminate against admission of adults desirous of continuing their education should be liberalized to permit enrollment of qualified mature men and women whose education has been interrupted because of family responsibilities or for other reasons. High school or college records should not be ruled inapplicable as evidence of eligibility for admission simply because the records were acquired some years earlier."

#20 (57)

RELATIONSHIP BETWEEN NONTRADITIONAL STUDIES AND TRADITIONAL ADMISSIONS

"The existence of separate institutions for nontraditional study should not be used as an excuse for denying qualified adults of either sex the opportunity to study on traditional campuses on a full-time or part-time basis."

cf. 4.4 for information regarding nontraditional study programs - C. #1100-  
#1188.

#20 (158)

# ENROLLMENTS OF "TRADITIONAL" STUDENTS

The Carnegie Commission notes that "Enrollments of 'traditional' students will most likely decline on established campuses in the 1980s, and subsequently advance more with, than so rapidly ahead of, the growth of the American population."

#22 (4)

ADMISSIONS - GRADUATE SCHOOL

"There should be no discrimination on the basis of sex or marital status in admitting students to graduate and professional schools."

#20 (106)

### ADMISSION TO GRADUATE OR PROFESSIONAL SCHOOL - WOMEN

"A woman desiring to enter graduate or professional school after some years away from higher education, and generally meeting departmental standards for admission (e.g., in her undergraduate grade-point average), should be given an opportunity to make up for her inability to meet any special requirements, such as specific mathematical requirements. Under no circumstances should she be denied admission because her undergraduate education occurred some years earlier."

**#20 (107)**

# ADMISSION OF WOMEN - GRADUATE LEVEL

The Carnegie Commission suggests that the Educational Amendments of 1972 have changed conditions from the 1970 Hess study which declared, "Not excluding academic qualifications, sex is probably the most discriminatory factor applied in the decision whether to admit an applicant to graduate school. It is almost a foregone conclusion that among American institutions women have greater difficulty being admitted to doctoral study and, if admitted, will have greater difficulty being accepted than will men." The Commission notes that "Some of those who have done research on the status of women in higher education tend to believe that discrimination is a more serious problem at the graduate than at the undergraduate level." (92) The Commission continues by observing that "Probably the most important factor tending to discriminate against women in admission to graduate study is a variety of rules and informal policies discouraging admission of students who wish to study on a part-time basis." (97)

#20 (92-97)

3.24

### ADMISSION OF WOMEN

The Carnegie Commission favors at the level of college attendance "greater concern for fairness in admissions at the undergraduate but particularly at the graduate level, with achievement and ability as the basic criteria."

The Commission further recommends "efforts to increase the pool of women holders of the Ph.D., the Doctor of Arts degree, and other advanced degrees preparatory for research and teaching... (and) more opportunities for women to return to college for advanced training after they have started their families."

#20 (4)

# WOMEN - EFFECTS OF LOW SOCIOECONOMIC STATUS ON ENROLLMENT

The Carnegie Commission notes that "enrollment rates for women in higher education, as a percentage of the relevant age group, are distinctly lower than for men." The Commission further observes that "low socioeconomic status tends to be a more significant barrier for women than for men..."

#9 (29)



ADMISSION OF WOMEN

Cf. 3.2 WOMEN IN HIGHER EDUCATION - #20 (1) - C. #554.

—

The Carnegie Commission emphasizes that "engineering schools should encourage the recent upward trend in the enrollment of women, even though it will be many years before the number of women graduates makes an appreciable contribution to the supply of engineers."

Cf. 8.3 ENGINEERING - A MALE DOMAIN - #15 (119) - C. #1361.

**#15 (125)**

ENROLLMENT IN SCIENCES

Cf. 4.1 ENROLLMENT IN SCIENCES - #15 (135) - C. #940.

ENROLLMENT TRENDS IN BUSINESS ADMINISTRATION

Cf. 4.1 BUSINESS ADMINISTRATION PROGRAMS - TRENDS IN ENROLLMENT - #15 (119)  
119) - C. #948.

ENROLLMENT TRENDS IN ENGINEERING

Cf. 4.1 ENGINEERING PROGRAMS - TRENDS IN ENROLLMENT - #15 (119)- C. #944

ADMISSION DISADVANTAGED GROUPS

3.24

Carnegie Commission Recommendation: "Admission standards should be relaxed for members of disadvantaged groups, provided that the chances are good that such students can meet graduation requirements in full."

#17 (38)

ADMISSION - DISADVANTAGED STUDENTS

cf. 1.4 ADMITTING SERVICES FOR EDUCATIONALLY DISADVANTAGED - POOL OF  
RESOURCES - #2 (8) - C. #127.

4.12/4.13 RECRUITING DISADVANTAGED STUDENTS FOR GRADUATE SCHOOL - #2 (8)  
Card # 994.

ADMISSION AND RETENTION - ECONOMICALLY DEPRIVED

cf. 8.4 FINANCIAL AID - REMOVING THE ECONOMIC ACCESS BARRIERS - #2 (3) for importance of financial aid in admitting and retaining the economically deprived - C. #1401.



cf. 1.4 "OPEN" SYSTEM ENDORSED - #2 (1) for recommendation that open system of higher education be maintained even for the economically deprived

ADMISSIONS - DISCOURAGING THE POORLY MOTIVATED

cf. 8.3 COUNSELING THE POORLY MOTIVATED - #12 (62)- c. #1331

The Commission recommends appropriate counseling through the office of admissions of all applicants in order to discourage the poorly motivated from entering.

TRANSFER STUDENTS - POLICIES OF ADMISSION

The Carnegie Commission recognizes that "Although there has been steady improvement in the ease with which students transfer from community colleges to four-year institutions, there is a need in many states for more careful articulation of policies providing for transfer."

Cf. 8.4 FINANCIAL AID FOR TRANSFER STUDENTS - #3 (18) - c. #1418.

#3 (18)

## ADMISSION OF TRANSFER STUDENTS FROM COMMUNITY COLLEGES

"Whenever public four-year institutions are forced, because of inadequacies of budgets, to reject students who meet their admission requirements, top priority should be given to qualified students transferring from community colleges within the state."

#3 (18-19)

# TRANSFER STUDENTS

"The development of community colleges with academic transfer programs creates a special obligation for four-year colleges to accept all competent students who wish to continue to a four-year degree, and to accept the credits these students have already earned toward the degree they seek."

#2 (12)

ADMISSIONS REQUIREMENTS

The Commission recommends that "Colleges should review their admissions requirements and, except for competence in the basic skills of reading, writing, and arithmetic, should not require or suggest particular courses of study at the secondary level unless such requirements or suggestions are tied explicitly to the colleges' own degree requirements, or to those of the system of which they are a part."

#19 (5)

ADMISSION QUALIFICATIONS

Cf. 1.4 STUDENT-DIRECTED ACTIVITIES OF INSTITUTION - #19 (3-4)  
C. #134.

WORK EXPERIENCE AS ADMISSION REQUIREMENT

The Carnegie Commission expresses the belief that "not only that all colleges should encourage prospective and continuing students to obtain service and work experience, but also that some colleges may wish to require it before admission or at some point during matriculation and could, in fact, in appropriate instances, grant credit for it toward completion of degree requirements."

cf. 8.2 PROVIDING EMPLOYMENT EXPERIENCE - #6 (13) - C.#1321.

4.31 CREDIT FOR WORK EXPERIENCE - #6 (13) - C. #1085.

#6 (13)



SUBJECT-MATTER ADMISSIONS REQUIREMENTS

The Carnegie Commission recommends that "colleges abolish subject-matter admissions requirements unless those requirements were specifically tied to the colleges' own degrees."

#19 (71)

MATHEMATICS - FOR ADMISSION

The Commission recommends that "High school students should be encouraged to study mathematics sequentially throughout secondary school in order to keep options open to college programs, jobs, and careers requiring background in mathematics."

#19 (43)

ADMISSIONS - TESTING

Cf. 3.25 C. # 862 and # 863 for information relative to innovative testing procedures for admissions

# TESTING - EVALUATING NEEDS AND ACCOMPLISHMENTS OF STUDENTS

The Carnegie Commission recognizes that testing is one of the three aspects of the educational process and, as such, needs to be improved and more widely used both in academic, vocational, and personal counseling, and in granting credit for achievement outside instruction in the formal classroom.

#13 (53)

PREPARATION OF STUDENTS FOR COLLEGE ENTRANCE

"The Commission recommends that the first priority in the nation's commitment to equal educational opportunity be placed upon the increased effectiveness of our preelementary, elementary, and secondary school programs."

#2 (5)

# MEAN ACT SCORES OF COLLEGE-BOUND STUDENTS (1966-1967)

**TABLE 4**  
Mean ACT scores  
of college-bound  
students, 1966-67

Test	Male	Female	Difference
English	17.8	20.0	--2.2
Mathematics	20.1	17.8	2.3
Social studies	20.1	19.9	0.2
Natural sciences	21.4	19.4	2.0
Composite	20	19.4	0.6

SOURCE: Cross (1971, p. 136).

# SOME DEFICIENCIES IN OPEN-ADMISSIONS PLACES

In the opinion of the Carnegie Commission nine cities which evidence "some deficiency in open-admissions spaces" include:

- Charleston, South Carolina
- Chattanooga, Tennessee
- Chicago, Illinois
- Dayton, Ohio
- Indianapolis, Indiana
- Kansas City, Missouri
- Mobile, Alabama
- New Orleans, Louisiana
- Norfolk-Portsmouth, Virginia

# MARGINAL DEFICIENCIES IN OPEN-ADMISSIONS PLACES

Central cities with marginal deficiency are:

- Allentown-Bethlehem-Easton, Pennsylvania
- Birmingham, Alabama
- Cleveland, Ohio
- Dallas, Texas
- Harrisburg, Pennsylvania
- Milwaukee, Wisconsin
- Orlando, Florida
- St. Louis, Missouri
- Wilkes-Barre-Hazleton, Pennsylvania



## SERIOUS DEFICIENCIES IN OPEN-ADMISSIONS PLACES

- Atlanta, Georgia
- Beaumont-Port Arthur-Orange, Texas
- Cincinnati, Ohio
- Denver, Colorado
- El Paso, Texas
- Greensboro-Winston-Salem-High Point, North Carolina
- Houston, Texas
- Jersey City, New Jersey
- Knoxville, Tennessee
- Lancaster, Pennsylvania
- Little Rock-North Little Rock, Arkansas
- Louisville, Kentucky
- Nashville, Tennessee
- Newark, New Jersey
- Paterson-Clifton-Passaic, New Jersey
- Peoria, Illinois
- Philadelphia, Pennsylvania
- Pittsburgh, Pennsylvania
- Tulsa, Oklahoma
- Youngstown-Warren, Ohio

RETENTION AND THE "CAPTIVE AUDIENCE"

"...we (Carnegie Commission) do not believe that colleges and universities should strive to hold the 5 to 15 percent\* or so of students who are there because of social pressures and are not really interested in continuing their education--the 'captive audience!'"

\*based on various studies of student attitudes

#12 (59)

3.24

# UNWILLING ATTENDANCE

Of the 40% of the college age population actually attending an institution of higher education in 1970, the Carnegie Commission declares that "some-perhaps as many as 1 in 6-are unwilling 'captives' of formal higher education, attending against their will because of the pressures of their parents and the expected requirements of the jobs to which they aspire."

#6 (7)

RELUCTANT ATTENDERS

Recognizing that "reluctant attenders— both undergraduate and graduate students— can cause a deterioration in campus atmosphere," the Carnegie Commission recommends that "Reasonable efforts should be made to reduce the ranks of the reluctant attenders."

#13 (51-53)

STUDENT ATTITUDES: RELUCTANT ATTENDANCE

Results of a 1969 study of student attitudes sponsored by the Carnegie Commission revealed that of "the 8 million students enrolled in 1969, somewhere between 800,000 and 2.4 million students would prefer not to be attending college."

cf. #13 (98-99) for table showing reluctance about being in college among currently enrolled undergraduates

#21 (18)

3.24

# COMMUNITY COLLEGE - BENEFIT FOR RELUCTANT ATTENDERS

In emphasizing the role of the community college to "stand as a continuing open opportunity over a period of years" for high school graduates who would benefit from postponing additional education, the Carnegie Commission suggests that those who are uncertain about their careers and about their lives would be better advised to attend a community college than be a reluctant attendee at another institution.

#3 (2)

Reasons	Men		Women	
	Major reason	Minor reason*	Major reason	Minor reason*
<i>Reasons related to career plans or interests and goals</i>	<u>48.5</u>	<u>37.8</u>	<u>43.1</u>	<u>29.8</u>
<i>Changed career plans</i>	22.1	15.4	20.7	13.6
<i>Wanted time to reconsider interests and goals</i>	26.4	22.4	22.4	16.2
<i>Academic and related reasons</i>	<u>53.5</u>	<u>59.4</u>	<u>34.1</u>	<u>44.8</u>
<i>Dissatisfied with college environment</i>	26.7	22.3	22.3	19.7
<i>Academic record unsatisfactory</i>	15.5	20.8	5.8	11.1
<i>Tired of being a student</i>	11.3	16.3	6.0	14.0
<i>Financial reasons</i>	<u>26.4</u>	<u>18.7</u>	<u>19.2</u>	<u>15.2</u>
<i>Scholarship terminated</i>	2.8	3.1	1.4	2.5
<i>Could not afford cost</i>	23.6	15.6	17.8	12.7
<i>Personal reasons</i>	<u>8.9</u>	<u>3.7</u>	<u>37.2</u>	<u>9.6</u>
<i>Marriage</i>	7.8	3.1	29.0	6.1
<i>Pregnancy</i>	1.1	0.6	8.2	1.4
<i>Draft</i>	<u>1.4</u>	<u>0.9</u>	<u>0.0</u>	<u>0.1</u>

**SOURCE:** Astin and Panos (1969 p.31) Subgroups of reasons were developed by the Carnegie Commission staff.

# HIGHER EDUCATION DROP-OUT RATE

3.24

**TABLE 1**  
*A generalized model of  
success and  
attrition in  
American  
colleges and  
universities\**  
(by percent of  
entering  
students)

	Entering	Terminating before securing degree	Securing degree	Securing degree and terminating
Entering college	100			
Undergraduate attrition		47		
Earning bachelor's			53	
Terminating education				23
Entering graduate school†	30			
Master's attrition		11		
Earning master's			19	
Terminating education				11
Entering doctoral program	8			
Doctor's attrition		4		
Earning doctor's			4	
Terminating education				4
TOTAL		62		38

\*Generalized data based upon degree statistics and available attrition studies.

†Includes students entering for first-professional degrees.

#6(9)



# MODEL OF SUCCESS AND ATTRITION

**TABLE 1**  
**A generalized**  
**model of**  
**success and**  
**attrition in**  
**American**  
**colleges and**  
**universities\***  
**(by percent of**  
**entering**  
**students)**

	Entering	Terminating before securing degree	Securing degree	Securing degree and terminating
Entering college	100			
Undergraduate attrition		47		
Earning bachelor's			53	
Terminating education				23
Entering graduate school†	30			
Master's attrition		11		
Earning master's			19	
Terminating education				11
Entering doctoral program	8			
Doctor's attrition		4		
Earning doctor's			4	
Terminating education				4
<b>TOTAL</b>		<b>62</b>		<b>38</b>

\*Generalized data based upon degree statistics and available attrition studies.

†Includes students entering for first-professional degrees.

# RETENTION RATE

"The Commission recommends that institutions of higher education seek to increase their retention rates through improved counseling programs, where these are deficient, and through establishing the practice of conducting an 'exit interview' with every student who plans to withdraw."

#12 (60-61)

RETENTION - ACADEMICALLY POOR STUDENT

"Nor do we (Carnegie Commission) believe that efforts should be made to retain students who have been given ample opportunity but have shown that they cannot 'make the grade' in higher education."

#12 (59)

## RETENTION:

3.24

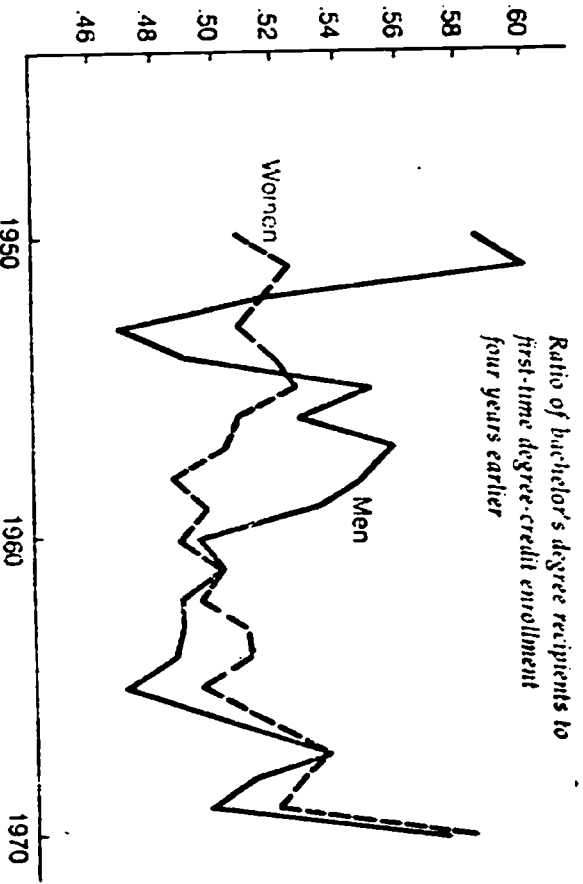
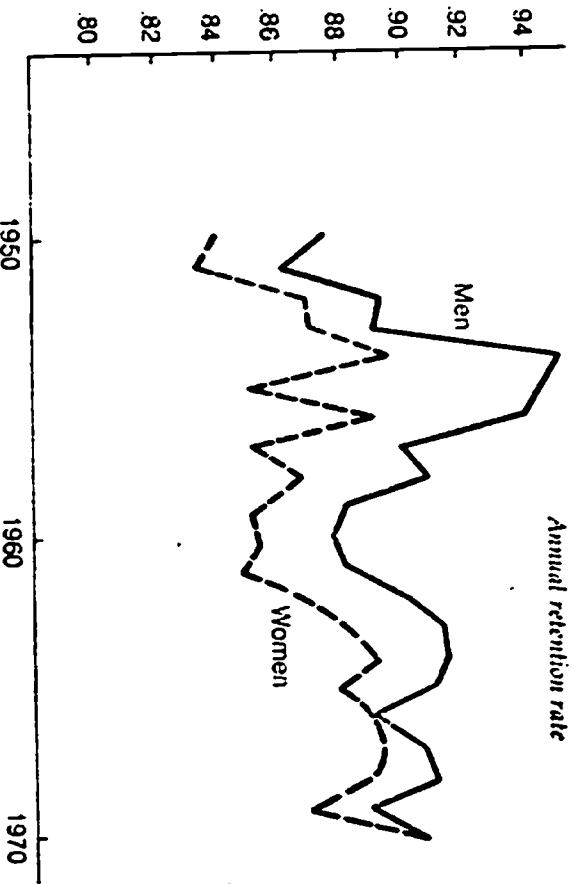
HIGHEST DEGREE NOW HELD: 1971 SURVEY RESPONSES OF 1967 COLLEGE FRESHMEN

Type of institution in which originally enrolled and highest degree now held	Men	Women	Total
<i>Total, all institutions</i>			
None	40.8	32.8	37.3
Associate (or equivalent) (A.A., A.S., etc.)	16.9	14.7	15.9
Other	0.9	1.9	1.4
Bachelor's degree (A.B., B.A., B.S., etc.)	41.2	50.6	45.4
<i>Two-year colleges</i>			
None	39.7	35.7	38.1
Associate (or equivalent) (A.A., A.S., etc.)	41.7	40.8	41.3
Other	1.7	2.8	2.1
Bachelor's degree (A.B., B.A., B.S., etc.)	16.8	20.7	18.3
<i>Four-year colleges</i>			
None	39.2	29.3	34.3
Associate (or equivalent) (A.A., A.S., etc.)	5.4	5.0	5.2
Other	0.7	1.5	1.1
Bachelor's degree (A.B., B.A., B.S., etc.)	54.5	64.1	59.2
<i>Universities</i>			
None	44.1	35.7	40.6
Associate (or equivalent) (A.A., A.S., etc.)	4.7	5.5	5.0
Other	0.5	1.8	1.0
Bachelor's degree (A.B., B.A., B.S., etc.)	50.6	56.8	53.2

SOURCE: Bayer, Royer, and Webb (1973, p. 24).

#20 (180)

LITTON A05 - MC011



SOURCE: Haggstrom (1971b).

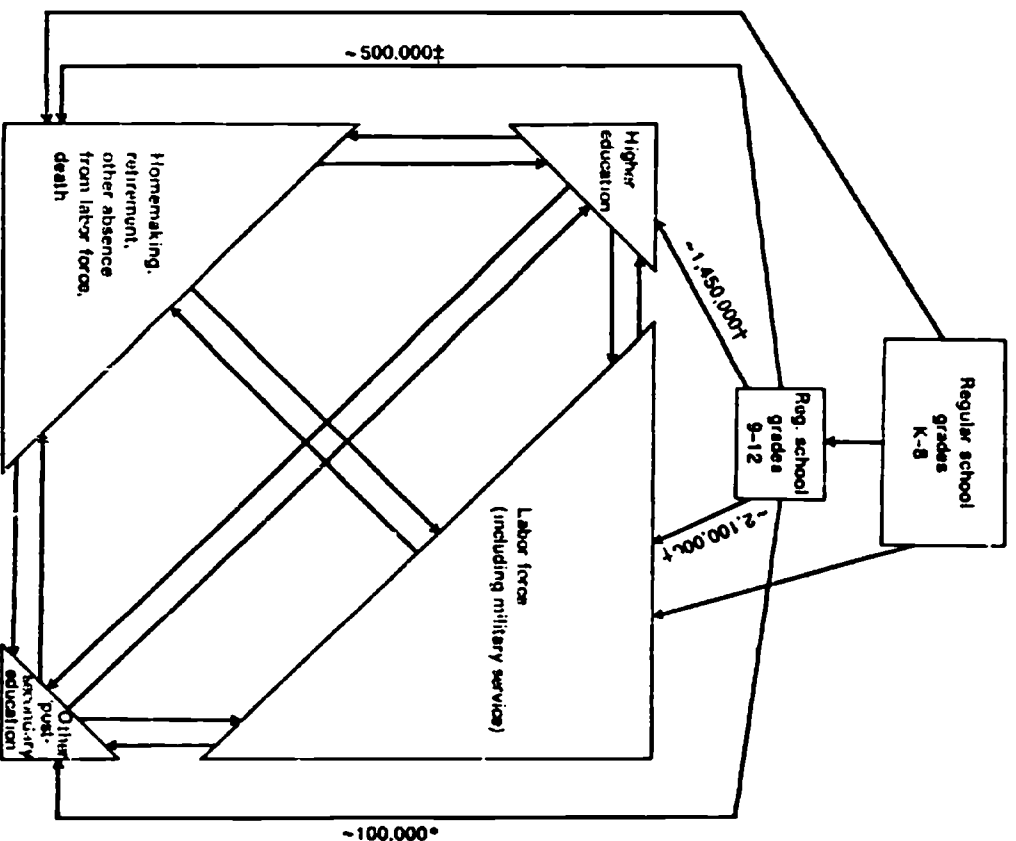
# NET IN AND "OUT" MIGRATION OF STUDENTS (1968)

- 854 -

3.2-

State	Students enrolled	Out	In	Net
Alabama	9,399	2,316	13,687	2,494
Alaska	3,013		620	-1,680
Arizona	76,384	7,390	13,764	6,405
Arkansas	48,365	7,629	7,377	-248
California	872,296	47,290	50,378	12,084
Colorado	97,681	11,215	28,860	17,655
Connecticut	97,681	43,911	22,156	-21,125
Delaware	13,51	6,152	5,505	-587
District of Columbia	61,319	9,740	47,142	37,402
Florida	110,913	31,645	27,711	-4,134
Georgia	162,614	16,171	22,241	5,663
Hawaii	25,015	7,819	5,215	-2,604
Idaho	24,415	7,771	5,505	-1,941
Illinois	312,167	81,339	42,551	-37,424
Indiana	172,119	21,118	47,913	-26,495
Iowa	91,740	22,417	26,292	5,865
Kansas	95,362	12,647	14,063	6,316
Kentucky	91,294	12,771	21,526	8,637
Louisiana	112,529	6,595	14,613	5,619
Maine	21,431	6,765	7,567	832
Maryland	115,559	35,148	19,997	-15,227
Massachusetts	24,764	42,131	16,247	-37,316
Michigan	264,437	27,572	33,614	17,302
Minnesota	125,617	18,420	22,199	3,770
Mississippi	72,960	16,061	8,615	-1,214
Missouri	154,408	22,011	35,831	15,220
Montana	21,315	5,059	3,777	-1,282
Nebraska	19,614	7,932	14,852	6,903
Nevada	9,375	3,373	1,675	-1,282
New Hampshire	23,107	7,517	12,293	4,651
New Jersey	149,506	117,256	13,546	-38,710
New Mexico	39,833	6,595	6,931	356
New York	686,466	137,650	81,934	-55,716
North Carolina	125,576	12,591	36,167	23,556
North Dakota	24,140	1,733	4,001	-2,268
Ohio	320,982	51,217	61,318	10,361
Oklahoma	21,437	9,256	15,524	6,268
Oregon	44,405	1,096	14,753	1,757
Pennsylvania	339,690	77,411	66,944	-10,507
Rhode Island	33,518	8,650	12,129	3,470
South Carolina	46,955	11,511	11,428	-86
South Dakota	28,799	4,166	6,112	1,946
Tennessee	333,801	21,837	34,913	13,076
Texas	61,042	2,124	11,106	6,215
Vermont	16,376	3,051	12,108	6,215
Virginia	111,106	33,313	24,543	-14,770
Washington	111,048	13,104	18,501	5,393
West Virginia	50,613	6,115	16,260	9,741
Wisconsin	116,291	17,206	18,117	16,011
Wyoming	12,986	3,467	2,654	-791

CHART 4 Estimated "Flows" into and out of selected school and labor force positions, 1972  
(estimates, exclusive of interyear moves)



\* Includes only persons not in labor force when surveyed in October CPS.

† Includes all persons who entered college in the fall from 1971-72 graduating class.

‡ Includes school dropouts and persons who enter military service.

NOTE: (1) Areas of rectangles and triangles are roughly proportionate to number of persons in each category at a moment in time.

(2) Figure ignores fact that many persons are in more than one category at any point in time.

SOURCE: Carnegie Commission Staff, 1973, based on USOE and Bureau of Census material.

RECOMMENDATIONS FOR REENTRY THROUGHOUT ACTIVE CAREERS

Cf. 4.4 OPPORTUNITIES FOR REENTRY - #6 (19) - C. #1149..



The Commission recommends that "Ways and means of providing monetary compensation, probably principally in the form of special awards, for employees who make constructive suggestions for innovations that result in economies should be developed."

**#12 (109)**

# USE OF GENERALISTS ON FACULTIES

Alexander Mood contends that "It is out of the question for faculties to teach students how the world operates because they don't know. Few of them have been out there; their entire lives have been spent in school. Furthermore they became specialists." Author Mood asserts that instead of specialists "students need generalists who can help them integrate the bits and pieces of knowledge and experience they have into some kind of rational model of mankind and society and the universe..."

#R37 (30)

COMPENSATION FOR D.A. DEGREE

The Carnegie Commission recommends that "salary levels and promotional opportunities should be the same for college teachers whether they have the D.A. or the Ph.D." (17)

The Commission goes so far as to declare that "It (D.A.) should be the degree preferred by colleges for those who are engaged to teach at all levels, with the exception of those who teach specialized research methods." (18)

#6 ( 17, 18)

**cf. 3.22 TENURE FOR PART-TIME FACULTY APPOINTMENTS - #20 (149) - C. #659.**

INTERNATIONAL HUMAN RESOURCES

The Carnegie Commission recommends that "the international migration of students and professional personnel should be explicitly incorporated into analyses of changes in demand and supply, and opportunities for student places and student aid for foreign students in the United States should not be curtailed."

#15 (183)

INNOVATIVE ADMISSIONS POLICY

The Carnegie Commission recommends that colleges and universities assist changes in education by "admitting students, so that they will have a sense of security, but allowing them to postpone actual enrollment for a reasonable period—perhaps three years."

#6 (27)

3.25

INNOVATIONS IN ADMISSION REQUIREMENTS

Alexander Mood recommends that entrance requirements be abolished because high school class rank "may be no indication at all of competence for social action careers; it may indicate, instead, a person inclined to conformity and compliance."

#R37 (87)

# OPEN-ADMISSIONS

The Carnegie Commission recommends that "at least one-third of the spaces in the central city's colleges should be available on an open-admissions basis . . . (and) that more selective institutions provide for some portion of their enrollment (perhaps 10 percent) on the basis of flexible admissions standards."

#14 (36)



# ADMISSIONS - TESTING

The Carnegie Commission observes that although the present tests used for admissions are "highly useful in identifying students who will pursue graduate or professional school study," they may be less useful in identifying students who would be successful in college programs leading to other kinds of careers.

The Commission suggests, therefore, that "Testing agencies should diversify their offerings or, at the least, counsel against the use of the present tests in educational programs and careers where their validity has not been demonstrated."

#19 (45)

ADMISSIONS TESTS

The Commission recommends that "Testing agencies should initiate the development of a family of admissions and placement tests, with special versions prepared for individuals with particular educational and career aspirations."

#19 (46)

"FOUNDATION YEAR"

Cf. 8.2 C. # 1333 and # 1334 for information relative  
to a year of intensive counseling and guidance based on student's  
competencies at the time of admission to the institution.

SUGGESTED WORK EXPERIENCE

The Carnegie Commission recommends that colleges and universities encourage students "to have work or service experience before entering college, to stop out while in college to obtain it, or both."

#6 (28)

ADMISSION OF QUALIFIED MATURE MEN AND WOMEN

cf. 3.24 ADULT ADMISSIONS - #20 (57) for recommendation concerning policies for admitting qualified mature men and women whose education has been interrupted - C. #809.

INNOVATIVE COOPERATIVE ADMISSION POLICIES

The Carnegie Commission recommends that "Ways should be sought for colleges to cooperate in the admissions process to reduce the cost in dollars, time, and nervous energy...Cooperative efforts should include experimentation in the use of a  
common school transcript  
common application form  
common secondary school report form  
statewide or consortia-wide central processing for applications"

#19 (4)

CLEARINGHOUSE ADMISSIONS OPERATIONS

The Carnegie Commission recommends that "In those areas where multiple college applications are a problem, clearinghouse operations utilizing single application forms, transcripts, and school report forms should be developed. Concern for the small amount of college autonomy involved should be less important than better service to students."

#19 (52)

INNOVATIVE USE OF ALUMNI IN HIGHER EDUCATION

Maintaining that "Alumni constitute a tremendous but little used resource for higher education," Alexander Mood proposes that alumni be utilised not only in teaching duties, but also as supervisors for student apprentices and counsellors for career entry. Mood goes so far as to suggest that "every student will have an alumnus specifically responsible for his successful entry into a career."

#R37 (71-72)



# PROPERTY RESOURCES

The Carnegie Commission recommends that "Regardless of rights given them by charter, colleges and universities should pay the usual taxes on any property held by them for non-educational purposes, and when expanding their campuses, should make every effort to develop the property in such a way as to permit its continuation on the tax rolls."

#14 (88)

MANAGEMENT OF PROPERTY RESOURCES - YEAR-ROUND OPERATION

"The Commission recommends that institutions of higher education carefully consider programs of year-round operation, but also recognize that the conditions that determine whether net savings will be achieved through year-round operation are complex and require careful study and planning."

#12 (124)

Capital facilities - more effective use of resources

To make more effective use of resources in relation to the students in attendance, the Commission suggests:

"Moving toward year-round operation so that more students can move through the same capital facilities."

#12 (17)

1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1  
33 32 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1  
- 876 -  
3.31

TOTAL CONSTRUCTION COSTS

"Assuming that construction costs are likely to increase at an annual average rate of about 5 percent in the 1970's, we may (Carnegie Commission) estimate total construction costs of institutions of higher education over the ten years, 1971-72 to 1980-81, as follows:

Total construction costs, 1971-72 to 1980-81

- |  |                |
|--|----------------|
| 1. FTE enrollment increases as indicated by Projection A*                            | \$18.0 billion |
| 2. FTE enrollment increases by 109,000 less per year than indicated by projection A* | \$12.4 billion |

\*cf. 3.24 SUMMARY OF THE ESTIMATED EFFECTS ON TOTAL ENROLLMENT - 1980  
#9 (59) - C. #785.

#9 (62)

FACILITIES EXPANSION

"We (CARNEGIE COMMISSION) recommend that careful studies be made . . . to determine whether present patterns of nonresident enrollment correspond closely with those of 1968 and, if so, to take whatever steps are necessary to expand facilities for higher education."

#14 (34)

SPACE UTILIZATION STANDARDS STUDY

"The Commission recommends careful study of space utilization standards and their reasonable application." The Commission suggests that intra- and interinstitutional studies should be undertaken considering the complexity of the space utilization problem.

#12 (125)

IMPROVED SPACE UTILIZATION RECOMMENDED

The Carnegie Commission recommends "that institutions limit their need for expansion into scarce urban space by better use of existing space."

#14 (84)

RENT FOR SPACE - A DEPARTMENTAL BUDGET CHARGE

"The Commission recommends that institutions of higher education develop plans for gradually shifting to a practice of requiring budgets of departments and other units to include a rental charge for the space they occupy and the equipment they use."

#12 (121)



# SHARING FACILITIES

"It (the Carnegie Commission) also welcomes developments that are occurring in several states in the direction of increased cooperation and sharing of facilities by public and private institutions of higher education, and urges that such collaboration be considered in all states."

#12 (128-129)

ACCREDITATION

Accreditation is considered a form of governance and is considered under category 2.3 - C. # 259 and category 2.5 = C. # 327 and # 328.

ESTIMATED COST OF INSTRUCTION

cf. 9.1 for exact figures of the estimated costs of higher education -  
Cards #1465 - #1485.

LEVELS OF INSTRUCTION - PART-TIME STUDENTS

"Institutions of higher education will not offer part-time students courses that exceed levels of instruction maintained in courses offered to full-time students."

#21 (86)

ACADEMIC CULTURE ON CAMPUS

The Carnegie Commission declares that "...the academic culture should dominate the campus; the intellectual aspect should be paramount."

#13 (33)

CLUSTER COLLEGES

The Carnegie Commission recommends that "Cluster and theme colleges within large institutions should provide particularly good opportunities for diversity."

cf. 1.0 NEED FOR DETERMINING UNIQUE PURPOSE - #13 (40) for discussion of diversity among institutions as a major goal of higher education. - C. # 15.

#13 (40)

# SPECIALIZATION AND DIFFERENTIATION AMONG CAMPUSES

The Carnegie Commission recommends that "State plans and multicampus system plans should provide for specialization by field and for differentiation of general functions among campuses and groups of campuses."

#13 (40)

HISTORIC PATTERN OF DEGREE STRUCTURE NO LONGER USEFUL

The Carnegie Commission observes that "relatively fewer students, fewer campuses, and fewer jobs are well served by the historic pattern."

#6 (6)



# DEGREE STRUCTURES - CURRENT AND PROPOSED

TABLE 3 Degree structures—current and proposed

Current		Proposed	
Years	Degree	Years	Degree
2	Associate in Arts (community colleges only)	2 (1 or 1½)* Later: 1 or 1½ (2)	Associate in Arts (available in all colleges)
4	Bachelor of Arts	4 (3) Later: 3 (4)	Bachelor of Arts
5	Master of Arts	5 (4) Later: 4 (5) 6 (5) Later: 5 (6)	Master of Arts Master of Philosophy
8-10 or more†	Ph.D.	8 (7) Later: 7 (8)	Doctor of Arts and Ph.D. (as specialist degree)
8	M.D.	7 (6) Later: 6 (7)	M.D.
12	Completion of residency for Medical Doctors	10 (9) Later: 9 (10)	Completion of residency
Short-term	Certificate (community colleges only)	Short-term	Certificate (available in all colleges)

\*Figures in parentheses show options to be available—thus "3 (4)" means a normal three-year degree with a four-year option.

†Averages of total elapsed years from B.A. degree to Ph.D. are 5 to 15 years, or 9 to 19 years after the high school degree. See Appendix F for registered and elapsed time to the Ph.D. degree.

The Carnegie Commission recognizes the major impact of the degree structure, especially its influence on:

- " . The amount of time spent by youths in formal higher education and its pattern of continuity
- . How this time is used-on what studies and for what purposes
- . The amount of resources needed by institutions of higher education and provided by society
- . The job expectations and job performances of graduates
- . The opportunities for persons throughout their lives to obtain the further education they may come to desire as their lives unfold."

#6 (3)

# REDUCTION OF IMPACT - SPECIALIZATION AND RESEARCH

The Carnegie Commission "consider(s) it of great importance to reduce the impact of specialization and research on the entirety of higher education."

cf. 4.4 DOCTOR OF ARTS DEGREE - #6 (17) - C. # 1187.

#6 (17)

## PROPOSED TIME STRUCTURES FOR DEGREES

4.0

*Master of Arts (or Science)* awarded after an additional one-year course of study. It is useful, particularly, for schoolteachers seeking their credentials.

*Master of Philosophy (and other similar degrees)* awarded after a two-year course of study following the B.A. degree.

*Doctor of Arts* awarded after a four-year course of study following the B.A. degree.

*Doctor of Philosophy* awarded after a four-year course of study following the B.A. degree.

*Doctor of Medicine* awarded after a three-year course of study following the B.A. degree and supplemented by a three-year period, under supervision, as a "house officer," prior to independent practice.

ACADEMIC REFORM - MOTIVATION FOR

The Carnegie Commission recommends that "programs of academic reform should be undertaken on their own merits and not because of fear of disruption or of hope that, through reform, it may be avoided."

#13 (2)

# NATURE OF THE "ACADEMIC CONSTITUTION"

The Carnegie Commission urges that academic reform be undertaken within the spirit of the "academic constitution," the general principles that have come to govern academic life. In particular the Commission urges concentration on:

- The intellectual, not the anti-intellectual
- Alternative views of problems, not on narrow-minded indoctrination
- Academic competence, not political tests of preferment
- Persuasion, not coercion
- Equality of opportunity to advance in skill and knowledge, not equality of results

# PROCESS OF INNOVATION - NEED FOR EVALUATION

"The process of change in each institution should be examined to assure (a) that innovations can be initiated without unnecessary impediments, (b) that all innovations of significance are subject to subsequent evaluation and review, and (c) that all experimental programs include a specific time plan for their termination or for their incorporation into the mainstream of the academic program."

#13 (64-65)

ACADEMIC REFORMS AS RELATED TO MISSION

cf. 1.0 MISSIONS TO GUIDE ACADEMIC REFORMS - #13 (34) - C. #18.



ACADEMIC REFORMS

cf. 1.4 STUDENT-ORIENTED REFORMS - #13 (4) - C. #150.

## ACADEMIC REFORM

The Carnegie Commission views academic reform as:

- " needed urgently in a number of major directions...
- possible, but not easy to accomplish
- capable of making fundamental improvements in the intellectual and social life on campus"

#13 (30)

NECESSITY FOR SELF-INITIATION OF REFORMS

"Higher education should take responsibility and undertake needed reforms internally rather than wait for them to be imposed externally as they are in so many other nations."

#13 (65)

900

4.0

INSTRUCTIONAL AREAS NEEDING REFORM

cf. 1.0 PROBLEM AREAS NECESSITATING REFORM IN HIGHER EDUCATION - #13 (3-4)  
Card #22.

FACULTY AGREEMENT WITH REFORMS, BY FIELD OF STUDY

cf. 3.22 FACULTY AGREEMENT WITH REFORMS, BY FIELD OF STUDY - #13 (80-81) -  
Card #578 and Card #579.

ACADEMIC CHANGES DESIRED BY STUDENTS AND FACULTY

cf. 3.22/3.24 CHANGES DESIRED BY STUDENTS AND FACULTY - #13 (2)- C. #573.

REEMPHASIS ON TEACHING

The Carnegie Commission reaffirms that "In nearly all institutions, however, placing a greater emphasis on the prestige of the art of teaching is both possible and desirable."

cf. 3.22 FACULTY REWARDS FOR TEACHING ~ #13 (50) - C. #549.  
3.22 REWARD FOR TEACHING - #22 (28) - C. #650.

#13 (48)

DEVELOPMENT OF NEW PROGRAMS

cf. 1.0 EDUCATIONAL MISSION CONSIDERATION - #21 (99-100) for relationship between mission and development of new programs. Card #13.



BROAD LEARNING EXPERIENCE

The Carnegie Commission recommends that "Consideration should be given to establishing campus by campus a series of coherent options for a broad learning experience among which students may choose."

cf. 4.4 THREE-YEAR DEGREE - DANGERS - #13 (45) - C. #1110.

#13 (45)

NECESSITY OF ACADEMICALLY ACCEPTABLE ALTERNATIVES

cf. 1.4 STUDENT-FOCUSED REFORMS - #13 (1) for proposal that academic reforms be initiated to provide academically acceptable alternatives from among which students may choose to "enhance the acquisition of desired skills and of wisdom." Card #149.

#13 (1)

# NEW EMPHASIS ON WORLD CULTURES

The Carnegie Commission observes that "new perspectives are coming into academic life, including...an emphasis on world cultures...and an interest in creativity in the arts rather than just in their history and critique."

#13 (24)

= 908 -

4.0

NEED FOR CREATIVE SCHOLARSHIP

Cf. 3.24 CREATIVE SCHOLARSHIP - A NECESSARY RESOURCE - #15 (152)  
Card #678.

COURSES OF ACADEMIC INSTRUCTION

cf. 7.6 for specific programs of course offerings and curriculum changes -  
Card #1289 - Card #1299.

CURRICULUM REFORM

Cf. 7.6 CURRICULUM REFORM - #22 (28-29) - C. #1295.

"RELEVANT" CURRICULUM

The Carnegie Commission defines "relevance" in the curriculum as "Courses that relate directly to actual personal interests of students and to current societal problems."

#13 (45)

# RELEVANCE OF CURRICULUM

The Carnegie Commission recommends that "The curriculum as a whole should be reviewed, campus by campus, in consultation with high school leaders, to assess its broad relevance not only to appropriate student interests but also to prior and subsequent learning experiences."

#13 (47)



4.0

RELEVANCY OF CURRICULUM - UNDERGRADUATE STUDENT ATTITUDE TOWARD

Cf. 4.11 RELEVANCY OF CURRICULUM - #14 (62) - C. #957.

STUDENT INPUT      CURRICULUM DETERMINATION

cf. 2.13 - STUDENT MEMBERSHIP - CURRICULUM COMMITTEES - #13 (47) -  
C. # 237.

COLLEGE COURSES AND MINORITY PROBLEMS

"College courses should include, where it is relevant to their content, information about the special problems encountered by members of minority groups and the contributions that members of all ethnic groups have made to American and world society."

cf. 7.6 COURSE AND CURRICULUM DEVELOPMENT - ETHNIC STUDIES - #2 (16) - C. #1292.

#2 (16)





# SUBJECT AREAS STUDIED BY ADULT LEARNERS

**TABLE 1**  
*Subject areas  
studied by  
adult learners*

<i>Areas of learning</i>	<i>Number (in millions)</i>	<i>Percentage*</i>
<i>Vocational subjects (excluding agriculture)</i>	11.2	35.0
<i>Hobbies and recreation</i>	13.4	41.8
<i>General education</i>	8.1	25.2
<i>Home and family life</i>	4.3	13.3
<i>Personal development</i>	3.7	11.4
<i>Public affairs</i>	2.1	6.4
<i>Religious studies</i>	4.4	13.8
<i>Agriculture</i>	1.1	3.4

\* Percentages add to more than 100 because some persons engaged in more than one area of learning

SOURCE: Adapted from Table 2 "Areas of Learning Indicated as the First Choice of Would-be Learners and Studied by Learners" in Commission on Non-Traditional Study (1973, p. 17).

# PROGRAM RESPONSE TO CHANGING NEEDS IN OCCUPATIONAL FORCE

The Commission recommends that "Individual institutions of higher education and state planning agencies should place high priority in the 1970s and 1980s on adjusting their programs to changing student choices of fields that will occur in response both to pronounced occupational shifts in the labor market and to changing student interests and concerns. High priority should also be placed on continued flexibility in the use of resources in order to facilitate such adjustments."

Cf. 4.11/4.12/4.13 EFFECTS OF JOB OPPORTUNITIES ON CHOICE OF MAJOR - #9  
(54) - C. #973.

#15 (21)

## HIGHER EDUCATION AND MANPOWER NEEDS

Although the Commission "does not, in general, believe that support of higher education should be geared to manpower requirements..." the Commission notes as exceptions to this general rule "able holders of doctorates who will contribute to the advancement of knowledge" and physicians and dentists.

#15 (154)



4.0

WORK-STUDY OPPORTUNITIES

cf. 8.2 PROVIDING EMPLOYMENT EXPERIENCE - #6 (13)- C. #1321.

CF. 8.3 for information concerning career potential for graduates which may influence academic programs - Cards # 1338 - #1384.

INSTRUCTIONAL COSTS - FEDERAL RESPONSIBILITY

Cf. 3.13 FEDERAL SUPPORT FOR INSTRUCTIONAL COSTS - #10 (14) -  
C. #475.

### ADAPTATION OF ACADEMIC PROGRAMS TO SOCIETAL NEEDS

"In all professional fields, careful and sustained attention needs to be given to adaptation of educational programs to the advancement of knowledge and technological change, and to society's changing problems and needs."

#15 (140)

4.1

**NEED FOR NEW CURRICULAR PROGRAMS AND NEW CONCEPTS IN URBAN AFFAIRS**

The Commission maintains that "If universities and colleges are to aid in the solutions of the complex problems of the inner city, they will have to develop new curricular programs and new concepts of public service."

#1 (45)

# ACADEMIC BENEFITS OF URBAN-LOCATED INSTITUTIONS

The Carnegie Commission observes that "major universities, wherever they are located, may develop urban-studies programs within their curricular offerings. "It is the urban-located institution, however, that has an excellent and immediate laboratory for its faculty and students."

#14 (62)

4.1

# URBAN ORIENTATION

"Some institutions have gone beyond the development of degree programs and have established schools with an urban orientation."

#14 ( 62)

RELATIONSHIP BETWEEN INSTRUCTION AND TECHNOLOGY

Cf. 7.3/7.4 TECHNOLOGY AND INSTRUCTION - #11 (11)- c. #1254.



INSTRUCTIONAL STAFF FOR NEW TECHNOLOGY

The Carnegie Commission recommends that "Colleges and universities should supplement their instructional staffs with qualified technologists and specialists to assist instructors in the design, planning, and evaluation of teaching-learning units that can be used with expanding instructional technologies. Institutions of higher education at all levels should develop their potentials for training specialists and professionals needed to perform the new functions that are associated with the increasing utilization of instructional technology on the nation's college and university campuses." The Commission suggests that such an approach to instruction would utilize the talents of four professionals: the teacher, the instructional technologist, the information specialist, and the media technologist.

#11 (70-74)

USE OF CLOSED CIRCUIT TELEVISION FOR INSTRUCTION

Cf. 7.3 USE OF CLOSED CIRCUIT TELEVISION IN HIGHER ED. BY  
SUBJECT AREA - #11 (41) - C.# 1250.

# LINK BETWEEN INSTRUCTION AND LIBRARIES

Cf. 7.1 LIBRARY - CENTER OF INSTRUCTIONAL EFFORTS - #11 (33)-  
C. #1236.

FEDERAL AID TO INTERNATIONAL STUDIES

Cf. 3.13 FEDERAL AID FOR SPECIAL PROGRAMS - #1 (41) - C. #510.

# INDIVIDUALIZED ETHNIC STUDIES MAJOR

"Cautions about specialized degree programs should not be assumed, however, to rule out the possibility of an individualized ethnic studies major at any campus."

#2 (16)

INTEGRATION OF PREPROFESSIONAL AND PROFESSIONAL EDUCATION

The Carnegie Commission recommends that "Associations of professional schools, as well as individual professional schools in universities and comprehensive colleges, should undertake leadership and responsibility in more carefully planned integration of preprofessional and professional education."

#15 (140)

# PROFESSIONAL SCHOOLS AND CONTINUING EDUCATION

The Carnegie Commission recommends that "Professional schools in universities and colleges should also undertake the responsibility for providing guidance and advice in connection with programs of continuing education for members of their professions, whether these are provided under the auspices of extension divisions, evening school programs of the professional schools, or in other ways."

#15 (139)

# DEVELOPMENT OF PARAPROFESSIONAL PROGRAMS

The Carnegie Commission recommends that "Professional schools in universities and colleges should undertake the responsibility for cooperating with and providing guidance for comprehensive colleges and community colleges in the development of paraprofessional training programs..."

#15 (139)



PROFESSIONAL SCHOOLS -- RESPONSIBILITY FOR MANPOWER STUDIES

The Carnegie Commission recommends that "Associations of professional schools and professional societies should undertake the responsibility for careful studies of manpower supply and demand for graduates in their respective fields."

#15 (138)

ACADEMIC PROGRAMS FOR NONTRADITIONAL STUDENTS

cf. 3.24 MORE NONTRADITIONAL STUDENTS ENCOURAGED - #21 (11) -  
C. # 682.

ERIC  
Full Text Provided by ERIC

cf. 8.0 STUDENT SERVICES FOR ADULT STUDENTS - #21 (85) for consideration of student services which should be provided for adult students in institutions where academic programs are offered for this specific age group. Card #1316.

# ENROLLMENT IN SCIENCES

The Carnegie Commission suggests that "the proportion of the college-age population with both the ability and motivation to pursue studies in these relatively rigorous fields (science) is limited." The Commission supports this suggestion by noting that "as enrollment rates in higher education rose in the 1960s, the physical sciences and engineering lost ground in their shares of enrollment...The evidence of growing interest by women in these fields is encouraging in terms of long-run supply (cf. 3.24 ENROLLMENT OF WOMEN - ENGINEERING PROGRAMS - Card #818) but their numbers are still too small, except in the biological sciences, to have a significant effect on supply in the near future."

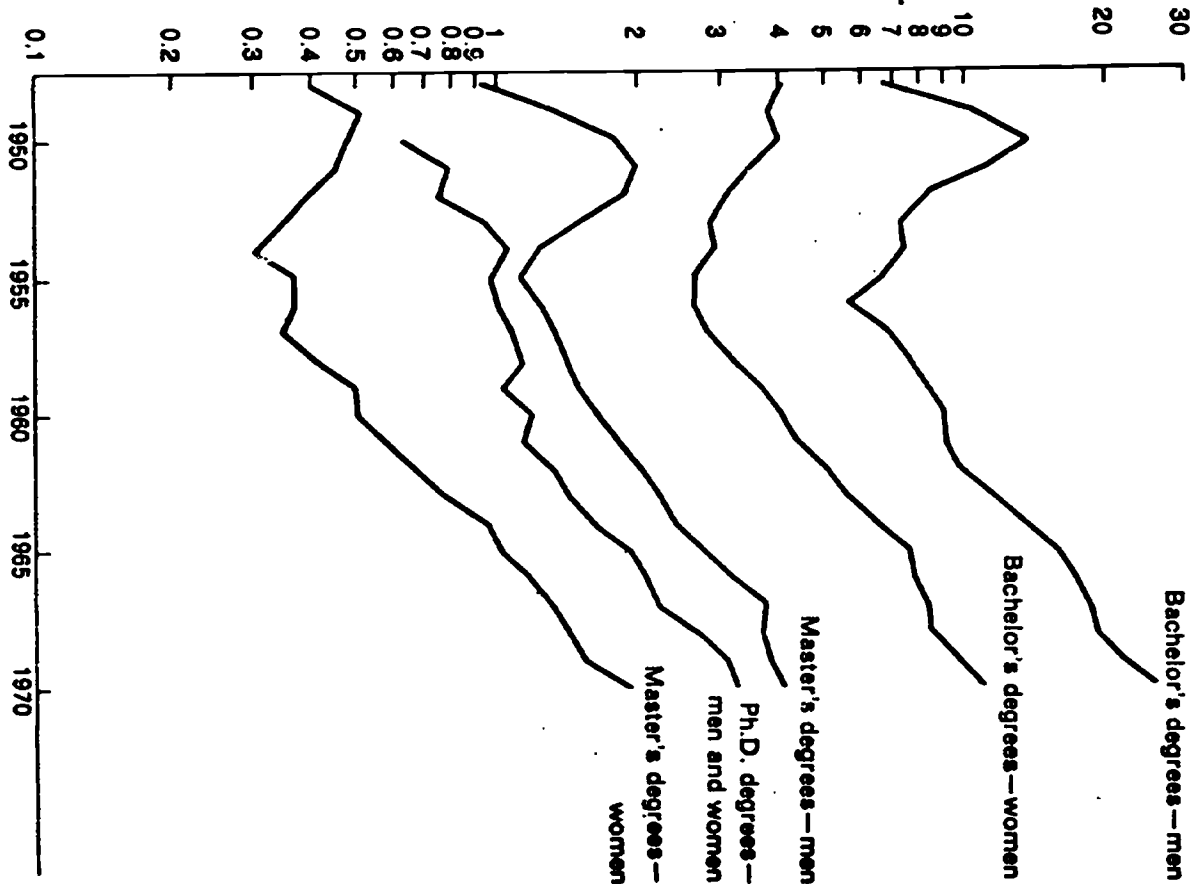
#15 (135)

WOMEN IN THE SCIENCES

cf. 3.22 WOMEN IN SCIENCE - #20 (2) for discussion of the combined situations which possibly explain the lower percentage of women in the sciences. Changing this combination could result in acceptance of more women in science with a resultant change in course offerings. Card #614.

# DEGREES AWARDED IN BIOLOGICAL SCIENCES BY LEVEL AND SEX

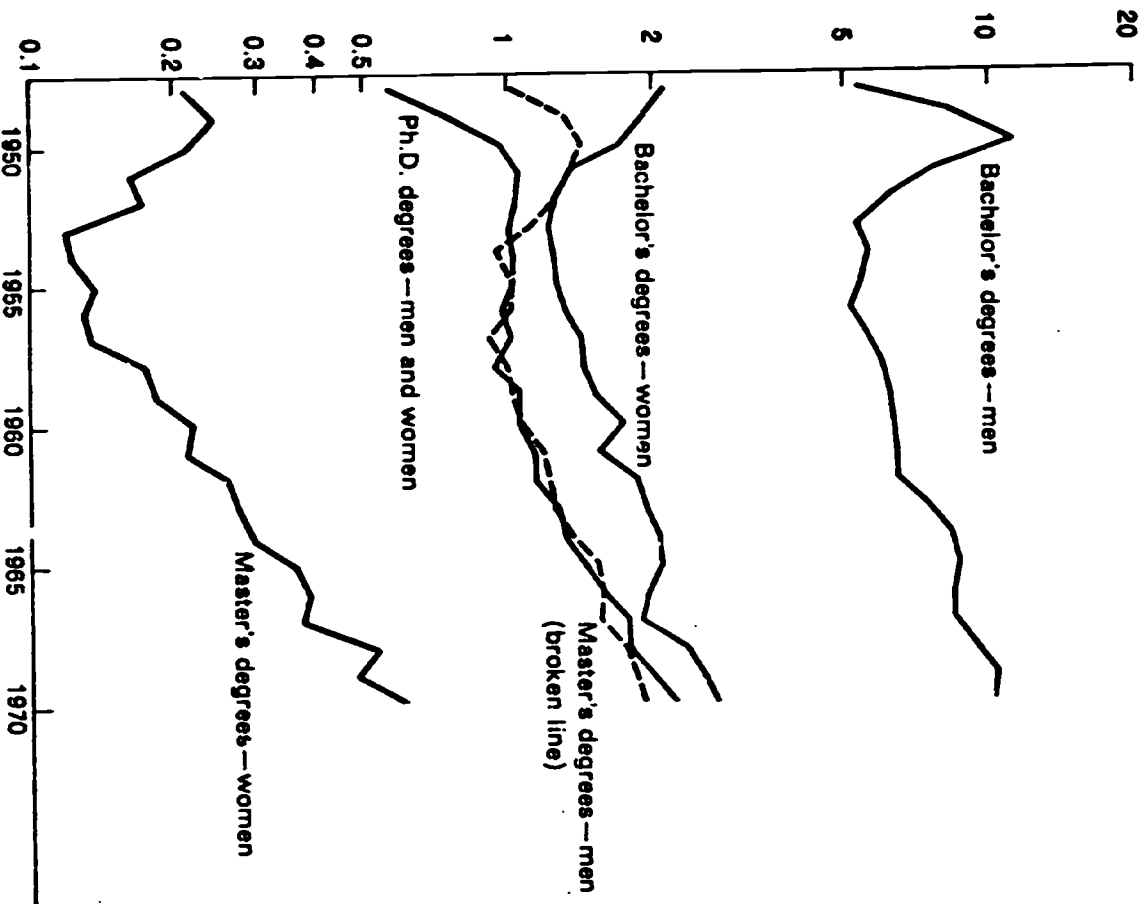
CHART 21 Degrees awarded in biological sciences, by level and sex, 1960-1970 (logarithmic scale, in thousands)



SOURCE: Adapted from U.S. Office of Education data by D. L. Adkins.

# DEGREES AWARDED IN CHEMISTRY BY LEVEL AND SEX

CHART 20 Degrees awarded in chemistry, by level and sex, 1948-1970 (log-arithmetic scale, in thousands)



SOURCE: Adapted from U.S. Office of Education data by D. L. Adkins.

ENGINEERING PROGRAMS - TRENDS IN ENROLLMENT

The Carnegie Commission recognizes the relationship between enrollment in programs of engineering and the job market by observing that "There is substantial evidence, also, that enrollment in engineering programs in colleges and universities is highly sensitive to shifts in the job market for engineers...(resulting in ) a cobweb effect (in the terms of economists)."

Cf. 4.3 LONG-RANGE PLANNING NECESSARY IN ENGINEERING PROGRAMS - #15 (126)-  
C. #1060.

#15 (120)



- 945 -

4.1

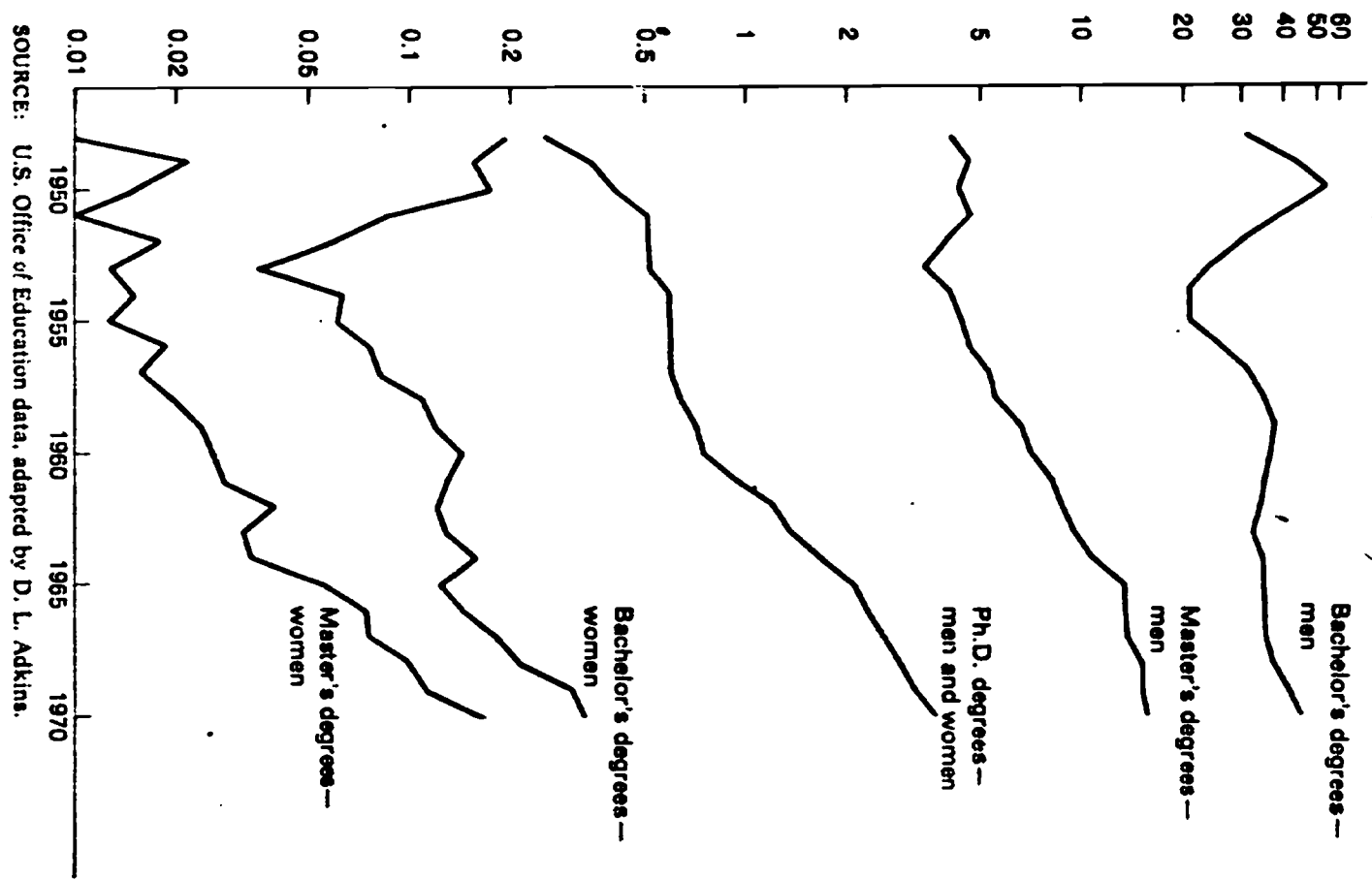
ENGINEERING PROGRAMS - ENROLLMENT OF WOMEN

Cf. 3.24 ENROLLMENT OF WOMEN - ENGINEERING PROGRAMS - #15 (125) -  
C. # 818.

ENGINEERING DOCTORATES

Cf. 4.13 ENGINEERING DOCTORATES - PREDICTED SURPLUS - #15 (124) - C. #1037.

# DEGREES AWARDED IN ENGINEERING BY LEVEL AND SEX



SOURCE: U.S. Office of Education data, adapted by D. L. Adkins.

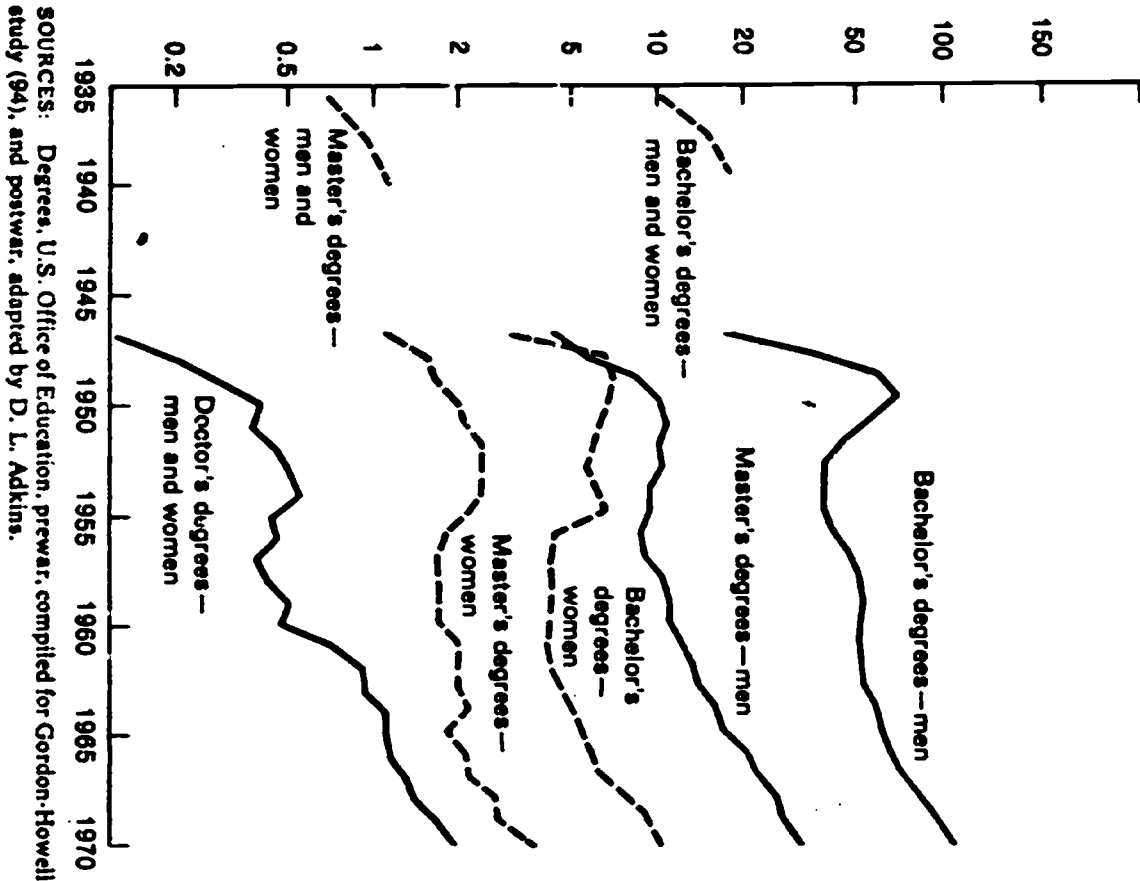
# BUSINESS ADMINISTRATION PROGRAMS - TRENDS IN ENROLLMENT

The Carnegie Commission notes that "all the evidence suggests that enrollment in graduate programs (of business administration) will rise considerably more rapidly than enrollment in undergraduate programs...(but on all levels) Increases in enrollment will also probably occur more rapidly in those schools that are broadening their programs to include specific training for management in the public and nonprofit sectors. In addition, business administration programs are likely to be especially attractive to students taking advantage of new opportunities to study for external degrees or otherwise participate in part-time study programs designed for working adults."

#15 (118-119)

DEGREES (ALL LEVELS) AWARDED IN BUSINESS ADMINISTRATION AND OTHER MANAGEMENT SPECIALTIES, BY LEVEL AND SEX (1936-1940 and 1947-1970)

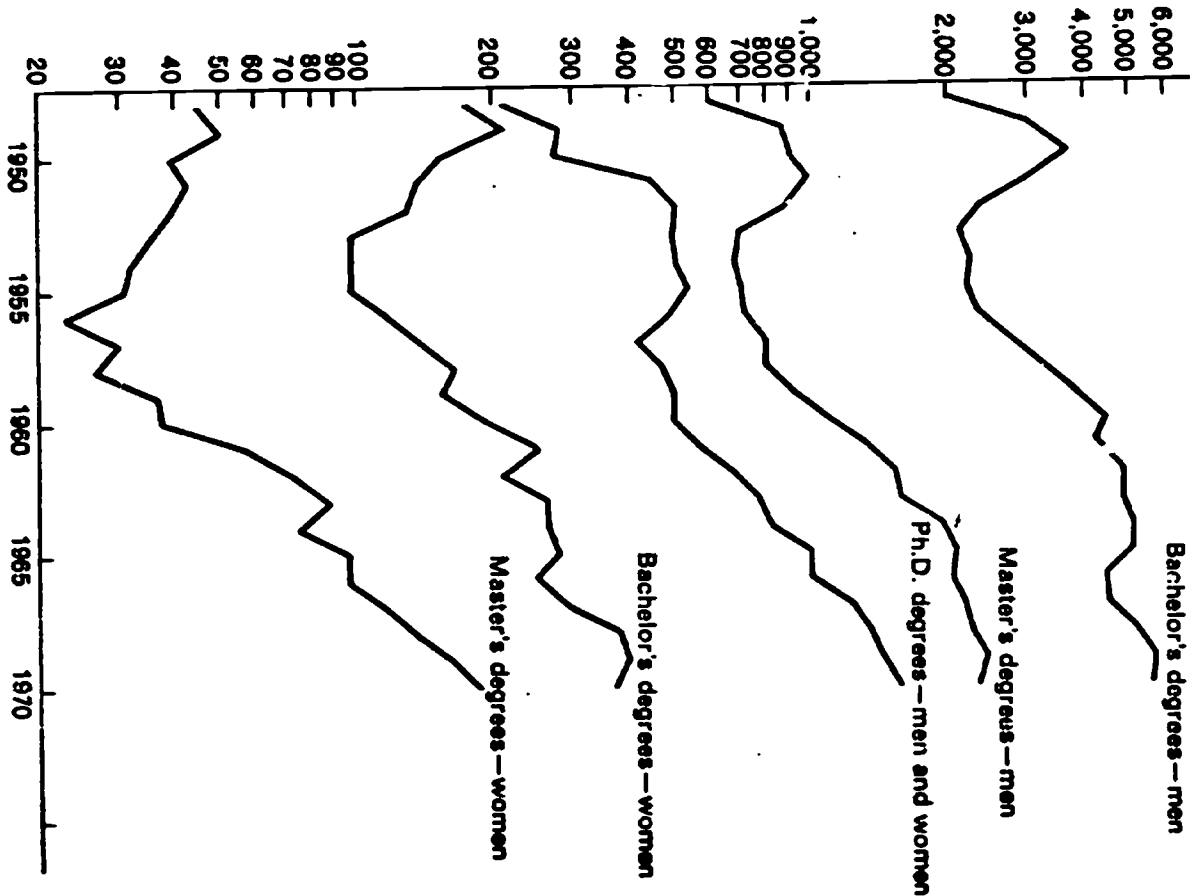
CHART 17 Degrees awarded in business administration and other management specialties, by level and sex, 1936-1940 and 1947-1970 (logarithmic scale, in thousands)



SOURCES: Degrees, U.S. Office of Education, prewar, compiled for Gordon-Howell study (94), and postwar, adapted by D. L. Adkins.

# DEGREES AWARDED IN PHYSICS, BY LEVEL AND SEX

CHART 19 Degrees awarded in physics, by level and sex, 1948-1970 (logarithmic scale, in thousands)



SOURCE: Adapted from U.S. Office of Education data by D. L. Adkins.

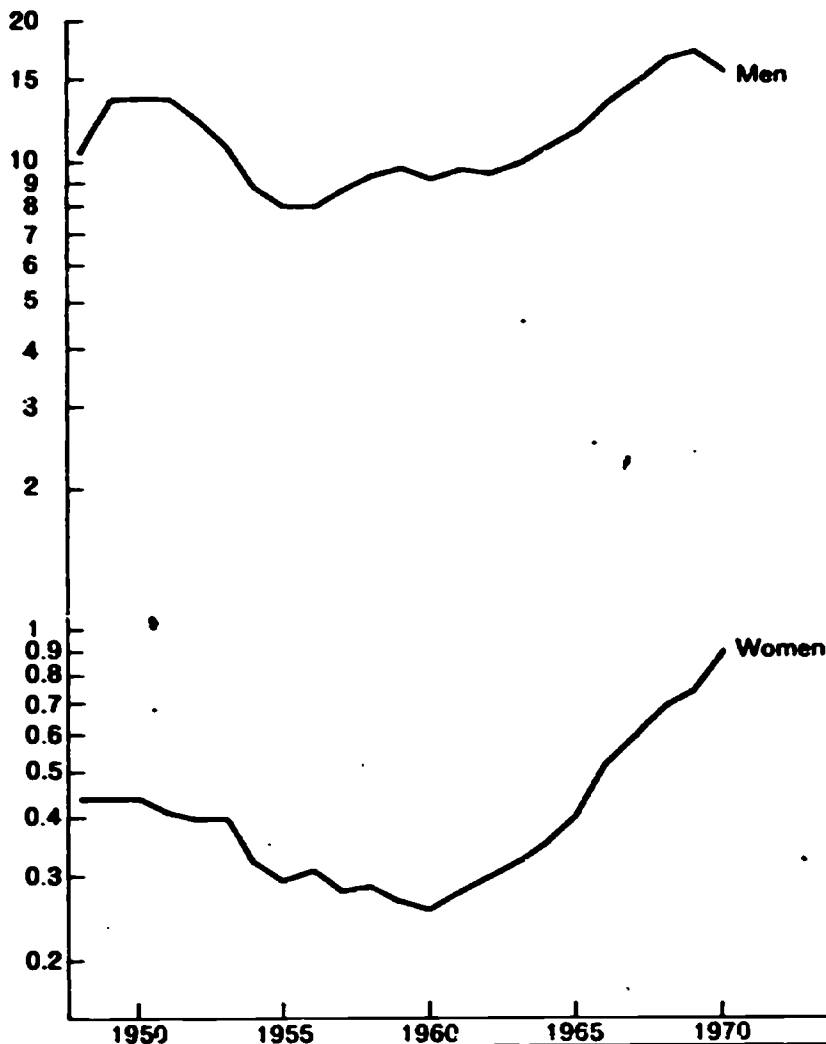
OUTLOOK FOR LEGAL PROFESSION

Cf. 8.3 OUTLOOK FOR LEGAL PROFESSION, # 15 (102-103) - C. #1363  
also C. #1364, #1365.

4.1

# DEGREES (ALL LEVELS) AWARDED IN LAW, BY SEX (1948-1970)

CHART 16 Degrees awarded in law, by sex, 1948-1970 (includes LL.B., J.D., S.A., M.A., and Ph.D. degrees; logarithmic scale, in thousands)





NEED FOR NON-TRADITIONAL SKILLS

cf. 4.2 NON-TRADITIONAL SKILLS - #21 (18-19) - C. #1048.

RENOVATION OF GENERAL EDUCATION

The Carnegie Commission recommends the "Renovation of general education, particularly in the direction of opportunities for broad learning experiences."

#22 (92)

4.1

# MAKING UP MATHEMATICS DEFICIENCIES

"Because of the evidence that many women enter college with inadequate mathematical training, special provision should be made to ensure that women desiring to major in fields calling for extensive use of mathematics are encouraged to make up this deficiency in order to enter the fields of their choice."

#20 (79)

# PART-TIME LEARNING

"The provision of part-time learning opportunities will be considered a legitimate function of all colleges or universities, regardless of their level of instruction or type of control. After deliberation, some institutions will elect not to perform this function, but their decisions will be based on particular objectives they have set for themselves because of educational policy options, limitations of space, finances, or facilities, and not on a belief that such instruction is inherently inappropriate to colleges and universities."

Cf. 3.24 for information on PART-TIME STUDENTS - Cards #684 -#688

#21 (85)

RELEVANCY of CURRICULUM (UNDERGRADUATE)

4.11

"In the Carnegie Commission survey of student attitudes 91 percent of the undergraduates at all institutions believed that the curriculum should be more relevant to contemporary life and problems."

#14 (62)

CURRICULUM DEVELOPMENT IN HUMANITIES AND SOCIAL STUDIES

Cf. 7.6 CURRICULUM DEVELOPMENT - #19 (73) - C. #1290.

# UNDERGRADUATE ATTITUDES ABOUT A WELL-ROUNDED GENERAL EDUCATION

4.11

		Doctoral-granting institutions			
	All institutions	Heavy emphasis on research	Moderate emphasis on research	Moderate emphasis on doctoral	Limited emphasis on doctoral
<i>"People want different things from college. How important is it for you to get a well-rounded general education at college?"</i>					
Percentage responding "essential"	58	59	53	54	49
Percentage responding "fairly important"	39	38	43	42	49
Percentage responding "not important"	3	3	4	4	2
TOTAL	100	100	100	100	100

UNDERGRADUATE FUNDING - LOWER DIVISION

"More faculty attention and more funds, on a comparative basis, should be devoted to lower-division students."

#13 (50)



FINANCIAL PRUDENCE OF USING TECHNOLOGY IN BASIC SKILLS AREAS

cf. 7.3/7.4 CAPABILITIES OF TECHNOLOGY - #11 (3-4) - C. #1258.

GRADE-POINT AVERAGES OF UNDERGRADUATE STUDENTS

Cf. 3.24 UNDERGRADUATE STUDENTS - GRADE-POINT AVERAGES BY SEX -  
#20 (50-51) - C. #697.

WOMEN UNDERGRADUATES

cf. 3.24 ADMISSION OF WOMEN - #20 (4) - C. #815.

ONE-YEAR LOWER DIVISION

cf. 4.4 ONE-YEAR LOWER DIVISION - #6 (16) - C. #1117.

4.11

TIME FOR COMPLETING LOWER DIVISION

cf. 4.4 REDUCING THE TIME FOR LOWER DIVISION - #6 (16) - c.#1116

# ACADEMIC CONTINUITY

The Carnegie Commission recommends that "the relationship of general education at the high school to that at the college level, especially in grades 13 and 14, should be explored with a view toward ways that the general education requirements at both levels might be linked together to provide continuity and to prevent wasteful overlap and duplication. School and college faculty members should work together on this set of problems under the sponsorship of local, state, and national organizations such as the College Board and professional associations. More of the responsibility for general education should be assumed by the high schools."

#19 (69-70)

# BEYOND LOWER DIVISION

The Carnegie Commission, in recommending that reassessment should take place every two years (cf. 4.31 TWO-YEAR RE-ASSESSMENT - #6 (15) ), expresses their belief "that students should not be encouraged to proceed past the A.A. degree level (lower division) unless and until there is evidence that they have a clear commitment to academic and/or occupational interest requiring additional college training. The college should not help to prolong indefinitely an aimless search for and experimentation with various life-styles and an amateurish sampling of swiftly passing interests..."

#6 (15)

PUBLIC AFFAIRS

In considering the question of establishing a separate school of public affairs or a broadened business school program the Carnegie Commission suggests that "the preferable solution lies in broadening the business school curriculum to encompass both types of managerial problems...Even if a separate school of public affairs is established, there should be close cooperation with the business school to avoid duplication of effort."

#15 (117)



URBAN STUDIES

4.1 1/4.12

"In a study of 400 urban institutions, 100 responded that they had either minors or majors in urban affairs or some aspect of it."

#14 (61)

4.11/4.13

HEALTH CARE - PROFESSIONAL TRAINING

Cf. 4.2 C. #1051, #1052, #1053, #1054, and #1055  
for information relative to vocational/occupational training of  
health profession personnel

4.1 1/4.13

# TRAINING HEALTH CARE PERSONNEL

The Commission recommends that "The training of health care personnel should be substantially expanded for the immediate future to eliminate the one remaining major deficit in highly trained manpower."

#17 (27)

HEALTH PROFESSION - ALL LEVELS

The Carnegie Commission recommends that "there should be increased emphasis on basic programs of education in the health sciences—in curricula leading to associate's, bachelor's, and master's degrees—to provide a uniform core of training for nurses, allied health workers, physicians, dentists, and persons preparing themselves for administrative, educational, and research careers in the health field."

#15 (96)

# EFFECTS OF JOB OPPORTUNITIES ON CHOICE OF MAJOR

The Carnegie Commission recognizes that "...shifts in relative job opportunities among occupations are likely to affect choices of undergraduate majors and graduate fields." The Commission notes in particular the rise in demand for employees in the allied health fields and the decrease in demand for elementary and secondary school teachers.

#9 (54)

4.11/4.12

EMPLOYMENT PROSPECTS FOR TEACHERS

Cf. 8.3 C. #1357, #1358, #1359, and #1360 for information concerning employment prospects for teachers which may affect determination of education programs and selection of education majors

NEED FOR REVISED ESTIMATES OF ENROLLMENT IN UNDERGRADUATE AND GRADUATE PROGRAMS OF EDUCATION

The Carnegie Commission suggests that "The U.S. Bureau of Labor Statistics and the U.S. Office of Education should develop revised estimates of the future demand for teachers that take account, as existing projections do not, of the growing demand for teachers in pre-elementary education and in such other settings as adult education programs. There is also a need for revised estimates of supply that take account of the declining enrollment in undergraduate education programs and of a possible future decline in enrollment in master's degree in education programs."

#15 (80)

The University should be concerned with training pre-elementary, elementary, and secondary personnel who will implement policies providing equal opportunity for women when a career is chosen in adulthood. The Commission declares that "The first priority in the nation's commitment to equal educational opportunity for women should be placed on changing policies in pre-elementary, elementary, and secondary school programs that tend to deter women from aspiring to equality with men in their career goals."

**#20 (56)**



4.11/4.2

TRAINING HIGH SCHOOL TEACHERS IN THE NEW TECHNOLOGY

The Carnegie Commission notes that "It is important that colleges begin now to train more prospective high school instructors in the use of computers" so that high schools may fulfill the Commission's suggestion that they "offer instruction in basic concepts and uses of computers."

#11 (78)

4.11/4.12/4.13

# IMPLICATIONS OF NEW TECHNOLOGY ON TEACHER TRAINING

The Carnegie Commission predicts that, as the result of new informational technology, "Prospective high school teachers and prospective college and university teachers will need to be trained in the use of the new technologies for instruction. Many of these prospective teachers who are in college now will still be teaching in the year 2000 when the new technology will be in general use in educational institutions."

#11 (4)

1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1  
35 32 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1  
- 979 -

STATE PLANNING OF TEACHER EDUCATION

4.11/  
4.12/4.13

The Carnegie Commission recommends that "State planning agencies should give very high priority in the next few years to careful adaptation of teacher education to the changing needs of a period of shrinking job opportunities for elementary and secondary school teachers. We believe that consolidation of teacher education into a more limited number of institutions that can offer high quality training would be generally preferable to a cutting back of teacher education on an across-the-board basis. States should encourage the participation of private as well as public colleges and universities in such planning. We also recognize that many state colleges that have largely concentrated on teacher education will need to develop more comprehensive programs if they are to serve students effectively, and that in sparsely populated states this will require division of labor among such state colleges in adding new fields or in some cases a merger of two or more such state colleges into a single location."

#15 (79)

TEACHER EDUCATION - INSERVICE TRAINING

4.11/  
4.12/4.13

The Carnegie Commission recommends that "Greater emphasis should be placed on inservice education of a different kind from that traditionally available. Local teacher centers that focus on teachers' problems and that utilize the resources of the university should be encouraged and their effects carefully evaluated."

#19 (96)

4.11/4.12  
4.13

# TEACHER TRAINING

The Carnegie Commission observes that: "At present too many white, middle-class teachers are prepared in essentially non-specific ways for general purpose assignments. The problems of the large urban schools, small rural schools, bilingual-bicultural schools, and wealthy suburban school districts require teachers trained for these separate constituencies. University faculties of arts and sciences and education should concentrate more upon training teachers for different kinds of schools. Because of the variety of tasks there can be no single model of a teacher-training program, and the National Council for the Accreditation of Teacher Education and state accrediting associations should encourage diversity. A common element in all preservice programs should be an emphasis upon bringing theory and practice together in clinical settings."

#19 (96)

4.11/4.12/4.13

## TRAINING PROSPECTIVE TEACHERS

The Carnegie Commission recommends that "Colleges and universities that are responsible for the training of prospective university, college, and high school teachers should begin now to incorporate in their curricula instruction on the development of teaching-learning segments that appropriately utilize the expanding technologies of instruction."

CF. 4.12/4.13 IMPORTANCE OF DOCTOR OF ARTS TO TECHNOLOGY - #11  
(68) - C. #1024.

#11 (68)

4.12/4.12/4.13

NEED FOR TRAINING TEACHERS OF EDUCATIONALLY DISADVANTAGED

Recognizing that a skillful and sensitive teacher "can motivate students, identify and encourage those with potential ability, and make them aware of the accessibility and value of higher education," the Carnegie Commission encourages providing student teaching opportunities in areas which have educationally disadvantaged children. "These internships should include out-of-classroom experiences with community agencies that are concerned with social work, public health, vocational education, and law enforcement."

cf. 4.4 NEED FOR INNOVATIONS IN TEACHER TRAINING - #2 (6) - C. #1182.

3.12/3.13 STATE AND FEDERAL FUNDS FOR TRAINING TEACHERS OF EDUCATIONALLY DISADVANTAGED #2 (6) - C. #438.

#2 (6)

4.12/4.1

# REVIEW NEEDED FOR GRADUATE EDUCATION

The Carnegie Commission notes that "dissatisfaction among graduate students is quite high (23 percent) considering the comparatively high quality of the facilities made available to them and the amount of staff attention given to them." The Commission acknowledges the possibility of exploitation and discrimination in graduate departments, as well as the critical nature of those who pursue graduate studies, recommending that "Existing graduate education warrants a thorough review."

#13 (57-59)



**The Carnegie Commission suggests that one way "To encourage the continued development of quality ix graduate education at public institutions (is) by permitting students of high ability to attend public institutions without reference to their residency..."**

#5 (60)

GRADUATE PROGRAMS- CURTAILMENT

"The Commission recommends that leading research universities refrain from cutbacks in graduate programs except on a carefully considered, selective basis. We also recommend that institutions with less emphasis on research consider curtailment or elimination, on a selective basis, of Ph.D. programs that are not of high quality or that are too small to be operated economically. We urge great caution in the development of new Ph.D. programs in particular fields at existing doctoral-granting institutions and do not believe that there is a need for any new Ph.D.-granting institutions, although some or even many institutions will be introducing the D.A. degree."

#12 (97)

4.12/4.13

Effect of LEAVES OF ABSENCE on GRADUATE INSTRUCTION

cf. 3.22 LEAVES OF ABSENCE - #12 (80-81) - C. #655.

Graduate students at the doctoral-thesis stage suffer greatly when faculty members take excessive short-term leaves of absence.

4.12/4.13

RELATIONSHIP BETWEEN ORGANIZED RESEARCH AND GRADUATE CURRICULUM

cf. 5.0 ORGANIZED RESEARCH AND GRADUATE CURRICULUM - #13 (47-48) -  
C. #1200.

GRADUATE EDUCATION - FUNDING

cf. 3.13 FEDERAL FUND SOURCES FOR GRADUATE EDUCATION - #15(151  
C. # 506 - for Commission observation regarding the  
inequity of Federal funding of graduate education

4.12/4.13

RETURN TO STATE OF INVESTMENT IN GRADUATE EDUCATION

Of. 3.12 STATE FUNDING - RETURN LIMITED IN GRADUATE EDUCATION -  
#15 (152) - C. #427.

4.12/4.13

GRADUATE SCHOOL ADMISSIONS

cf. 3.24 ADMISSIONS - GRADUATE SCHOOL for recommendations - C. #812-  
C. # 814.

4.12/4.13

FEDERAL FUNDING OF GRADUATE TALENT SEARCH

Cf. 3.13 FEDERAL FUNDING OF GRADUATE TALENT SEARCH - #1 (25)-  
C. #504.



4.12/4.13

GRADUATE ENROLLMENTS

Cf. 3.24 GRADUATE ENROLLMENTS - #9 (13)-C. #771, also: C. #761, #762, and #713.

FIRST-TIME ENROLLMENT TRENDS - GRADUATE SCHOOLS - #15 (149) - C. #766 - for important indication of reduced percentages in gains for first-time graduate enrollments in public universitie

4.12/4.13

RECRUITING DISADVANTAGED STUDENTS FOR GRADUATE SCHOOL

"The Commission recommends that graduate and professional departments coordinate recruiting disadvantaged students."

#2 (8)

4.12/4.13

WOMEN - GRADUATE LEVEL

Cf. Cards # 812 - # 815 for information relative to the ADMISSION OF WOMEN  
to Graduate School  
Card # 1414 for information relative to FINANCIAL SUPPORT FOR  
GRADUATE STUDENTS (including women)

FACULTY ATTITUDES TOWARD WOMEN GRADUATE STUDENTS

cf. 3.24 WOMEN GRADUATE STUDENTS - #20 (107)- C. #698.

4.12/4.13

ADMINISTRATOR TRAINING

The Carnegie Commission notes that "given the diversity of school districts, there can be no single model of an administrator training program. Common elements in all programs should be the use of the resources of the whole university and experimentation with different ways of combining theory and practice in clinical settings."

#19 (100)

4.12/4.13

INSERVICE TRAINING FOR ADMINISTRATORS

The Carnegie Commission recommends that "Greater emphasis should be placed on inservice training as a way of keeping administrators\* up-to-date and as a vehicle for school improvement.

\* high school administrators

#19 (100)

4.12/4.13

GRADUATE DEGREES FOR COMMUNITY COLLEGE FACULTY AND ADMINISTRATORS

The Carnegie Commission considers that "the research-oriented Ph.D. is highly inappropriate for the community college teacher. Considerable emphasis should be placed on the four-year Doctor of Arts degree as the degree to be attained by those who will assume leadership roles—for example, department chairmen and other administrators—in community colleges. However, community college teachers should be trained at the Master's level, with increasing emphasis on two-year rather than one-year programs."

#3 (43)

- 1000 -

4.12, 4.1

GRADUATE SCHOOL PLACEMENT

CF. 8.3 OCCUPATIONAL COUNSELING - #15 (167) for recommendation  
that graduate schools develop their own placement  
programs - Card # 1373.



4.12 and  
4.13

NEED FOR MANPOWER STUDIES IN GRADUATE PROGRAMS

The Carnegie Commission admits that "we do believe that manpower planning is needed in relation to the supply of Ph.D.'s and of physicians and dentists."

Cf. 8.3 C. #1366, #1367, #1368, and #1369 for  
information relating to career prospects for Ph.D.'s

#15 (138)

# PURSUIT OF GRADUATE WORK IN OVER-SUPPLIED FIELD

The Carnegie Commission, considering the problem of the unusually able student who wishes to pursue graduate work in a field already over-supplied (e.g., humanities and some social sciences), advises that "qualified students should not be denied the opportunity of participating in advanced education, to fulfill their own strong desires and aspirations."

#15 (153)

1903

4.12/4.13

MASTER OF PHILOSOPHY DEGREE . M.B.A., AND M.H.B.

The Carnegie Commission, in general, favors "more such degrees (like M. Phil.) calling for two years of study after the B.A., as does the M.B.A. For example, we favor an M.H.B. (Master in Human Biology), which would equip a person either to be a physician's assistant, or to teach at an appropriate level, or to go on to an M.D. or PH.D. The two-year advanced master's degree would serve occupations which require more formal training than the one-year M.A. now provides."

#6 (16)

- 1004 -

4.12/4.13

WOMEN GRADUATE STUDENTS IN MALE FIELDS - M.A. LEVEL

cf. 3.24 WOMEN GRADUATE STUDENTS IN MALE FIELDS - MASTERS'S LEVEL -#20 (86)  
C. #701.

4.12/4.13

# IMPLICATIONS OF JOB-MARKET ON MASTER'S PROGRAMS

Expressing a concern over the lack of analysis of the implications of the changing job market for holders of master's degrees and for master's programs in colleges and universities, the Carnegie Commission recommends that "Federal and state government agencies and other appropriate bodies should undertake studies of the implications of the changing job market for holders of master's degrees and for enrollment in master's programs."

#15 (161)

4.12/4.13

IMPROVING THE QUALITY OF INSTRUCTION - M.Phil. and D.A. degrees

The Carnegie Commission recognizes the ability of increased emphasis on a two-year master of philosophy (M.Phil.) degree and a four-year doctor of arts (D.A.) degree ("both designed specifically to prepare candidates for college and university teaching") to improve the quality of instruction in higher education.

#9 (51)

1007

4.12, 4.13

TOTAL REGISTERED AND ELAPSED TIME FROM B.A. TO PH.D.

*Total Registered  
and Elapsed Time from B.A.  
to Ph. D. by Field  
(1964-1966) Doctorates*

Field	<u>Total registered time</u>		<u>Total elapsed time</u>	
	(Median)	(Mode)	(Median)	(Mode)
<i>Physical sciences and engineering</i>	5.1	5	6.3	5
<i>Biological sciences</i>	5.3	5	7.3	5
<i>Social sciences</i>	5.3	5	8.0	5
<i>Art and humanities</i>	5.7	5	9.5	6
<i>Professional fields</i>	6.0	4	10.8	7
<i>Education</i>	6.8	5	13.8	15

SOURCE: *Doctoral Recipients from United States Universities, 1958-1966.*  
National Academy of Sciences. Publication 1489, Washington, D.C., 1967.

4.12/4.13

# REDUCTION OF TIME FOR DEGREE

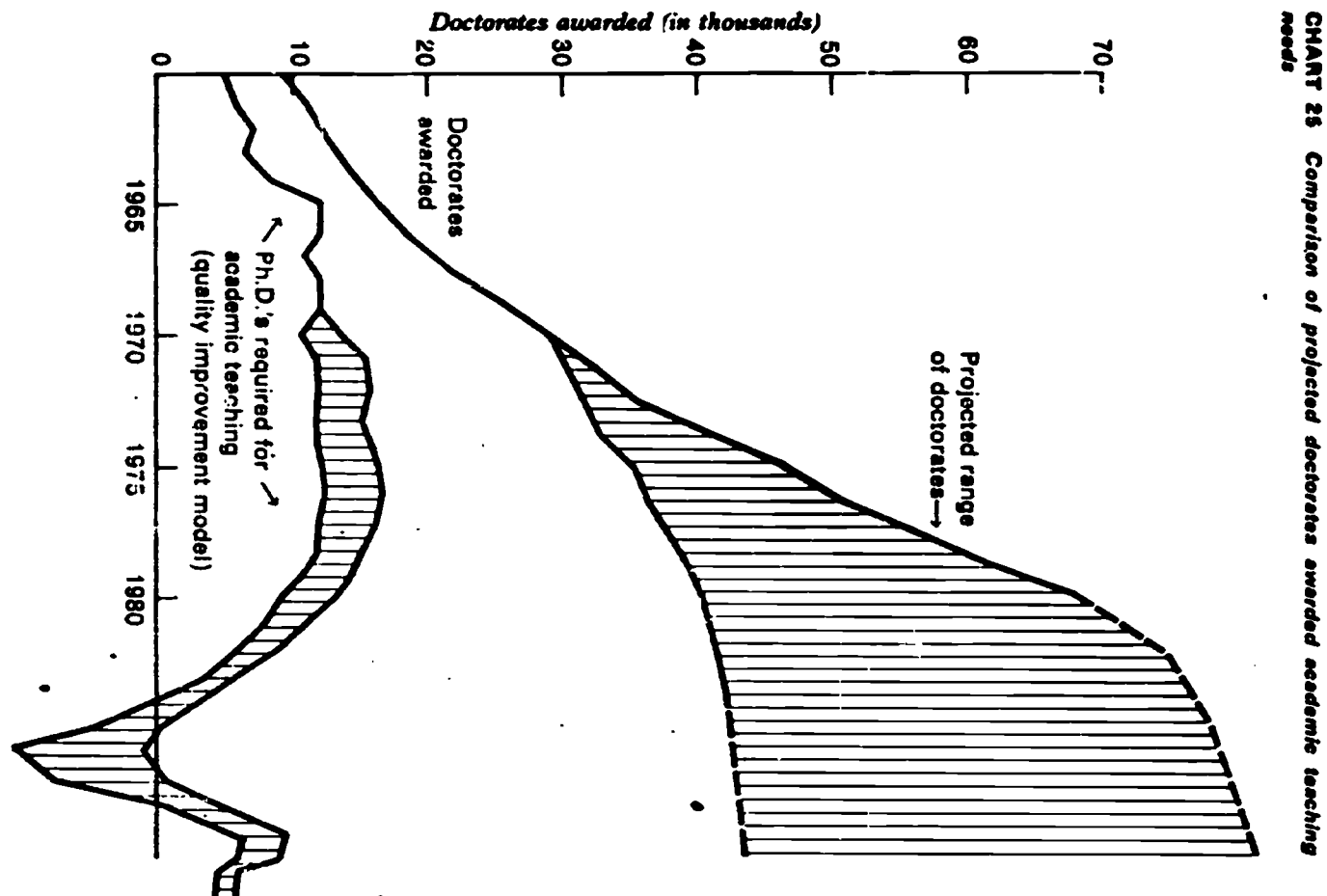
The Carnegie Commission reiterates their recommendation to reduce the length of time require to obtain a doctor's degree and other advanced degrees, advocating a four-year D.A. and Ph.D.

#9 (51)



4.12/4.1

# COMPARISON OF PROJECTED DOCTORATES AWARDED ACADEMIC TEACHING NEEDS



4.12, 4.13

# INCREASE OF DOCTORAL-GRANTING INSTITUTIONS

The Carnegie Commission notes that "one of the most disturbing trends in graduate education is the proliferation of doctoral-granting institutions."

cf. 2.32 STATE INFLUENCE ON GRADUATE EDUCATION - #15 (159) -  
C. #292 - for recommendation that state coordinating councils curtail the establishment of new doctoral programs and eliminate existing programs which are low in quality or high in cost.

#15 (155)



4.12, 4.13

REGIONAL DOCTORAL PROGRAMS

The Carnegie Commission recommends that "Regional plans for the development of Ph.D. programs along the lines of those of the New England Board of Higher Education and the Southern Regional Education Board should be strengthened and extended to regions that do not now have them."

#15 (160)

4.12/4.13

# DOCTORAL FELLOWSHIP PROGRAM

The Commission recommends "establishment of a doctoral fellowship program with selection based upon demonstrated academic ability without reference to need, with fellowships in the amount of \$3,000 annually for a maximum of two years to graduate students advanced to candidacy for a Ph.D. or equivalent research doctorate, the total number of such first-year fellowships to equal three-fourths of the national total of earned doctorates in the previous year."\*

\*In the Revised Recommendations, the Commission retains the \$3,000 annual amount of the graduate fellowship. The Commission does modify, however, the total number of fellowships awarded, noting that "the total number of such first-year fellowships to equal one-half of the average of the national total of earned doctorates in the fourth, third, and second year preceding the year in which the fellowships are awarded. In each year an additional number of fellowships equal to 10 percent of the total just described would be allocated for expansion into neglected or developing fields." #1A (15)

#1 (26)

4.12/4.13

DOCTORAL FELLOWSHIP PROGRAM

Cf. 3.13 FEDERALLY SUPPORTED DOCTORAL FELLOWSHIP PROGRAM - #10  
(82)- C. #508.

3.13 COST-OF-EDUCATION SUPPLEMENT FOR DOCTORAL STUDENTS --  
#10 (83) - C. #507.

4.12/4.13

DOCTORAL CANDIDATES

"...we (Carnegie Commission) do believe that in a rapidly worsening job market for Ph.D.'s, graduate education should aim at increased breadth in the training of Ph.D.'s who plan to go into college teaching and should place increased emphasis on the Doctor of Arts degree as the most appropriate type of preparation for those doctoral candidates who are aiming at careers that will involve primarily the teaching of undergraduates and training of candidates for the master's degree."

#12 (55)

4.12/4.13

WOMEN GRADUATE STUDENTS - DOCTORAL LEVEL - ABILITY

cf. 3.24 WOMEN DOCTORAL CANDIDATES - ABILITY - #20 (92) - C. #703.



4.12/4.13

# DOCTOR OF ARTS DEGREE

Although the Carnegie Commission, in agreement with the Council of Graduate Schools, stipulates that "doctor of arts programs should be developed only in those institutions and in those departments within institutions that have faculties of the requisite size and quality," the Commission recommends that "The continued development of doctor of arts programs should be encouraged. We consider the doctor of arts a more suitable degree than the Ph.D. for many types of employment."

#15 (159-160)

4.12/4.13

# DOCTOR OF ARTS DEGREE

Favored by the Carnegie Commission for the nonresearch teacher, the Doctor of Arts degree (as proposed by the Commission) would not be simply a Ph.D. without the dissertation requirement, but would be, instead, "a specially designed course that would lead to the standard degree for college teachers."

The D.A. would take the same length of standard time after the B.A. degree (four years) as the Ph.D. Instead of the dissertation, however, "some independent piece of work showing understanding of the chosen field of study and ability to present lucidly a complex body of knowledge" would be required.

Cf. 3.25 COMPENSATION FOR D.A. DEGREE - #6 (17) - C. #859.

The basic objective of the D.A. degree, according to the Commission, "is not to get more teachers but to get teachers who are better prepared and better oriented." The Commission further suggests that "The Doctor of Arts degree will also be appropriate for many positions in government, industry, and academic administration."

Cf. 4.4 PROFESSIONAL DOCTORATES - #6 (18) - C. #1186.

#6 (16-18)

4:13,

DOCTOR OF ARTS (D.A.)

"The Commission has recommended that the doctor of arts (D.A.) degree become the standard degree for graduate students preparing to enter undergraduate or master's level college teaching, as well as for students planning on obtaining professional jobs that do not involve research responsibilities in government and industry."

#15 (159)

4.12/4.13

D.A. DEGREE

The Carnegie Commission not only favors the Doctor of Arts degree for prospective teachers but also declares that "The standard liberal arts advanced degree should be the Doctor of Arts."

#6 (18)

4.12/4.13

DOCTOR OF ARTS DEGREE

"We (Carnegie Commission) agree (with Supplemental Statement on the Doctor of Arts Degree, 1972 issued by the Council of Graduate Schools in December, 1971) that the Doctor of Arts degree should be introduced into the leading research universities. Some other institutions, however, have both the interest and the capacity to introduce it as well, particularly within the category which we have called 'comprehensive colleges and universities.'"

#12 (57)

DOCTOR OF ARTS DEGREE - WOMEN

"We call particular attention to the opportunities inherent in the doctor of arts degree—it is more oriented toward teaching, and the difficulties that face some women in getting started in a research career do not apply to the same extent to teaching."

#20 (4)

4.12/ 4.13

DOCTOR OF ARTS DEGREE - COST

"New D.A. programs should be limited, however, to academic departments of high quality and of adequate size for economical operations. . . .in most instances the latter stages of preparation for the D.A. will be less costly than the corresponding stages of preparation for the Ph.D. There will be less need for use of computers, expensive laboratories, and highly specialized library collections."

#12 (57)

4.12/4.13

IMPORTANCE OF DOCTOR OF ARTS TO TECHNOLOGY

The Carnegie Commission notes that the acceptance of the Doctor of Arts degree is "especially urgent if instructional technology is to be fully and wisely utilized." The Commission continues by suggesting that "Institutions offering the proposed Doctor of Arts degree or other courses of instruction designed to prepare college and university teachers should provide instruction and experience in course development and the utilization of learning resources and instructional technologies as a part of their curricula."

#11 (68)



4.12/4.13

DOCTOR OF ARTS AND TEACHER TRAINING

The Carnegie Commission recommends that "The use of the doctor of arts degree with emphases on a broader subject matter training and on supervised teaching experience should be extended as an alternative to the Ph.D. for faculty members who will be engaged primarily in teaching—and teacher training should be generally improved."

#22 (28)

4.10/4.13

FINANCIAL SUPPORT OF THE DOCTOR OF ARTS PROGRAM

To "support the growth and acceptance of the Doctor of Arts program, the Commission recommends that a specified number of fellowships be made available each year to students in that program."

/LA (16)

4.12/4.13

PH.D.

The Carnegie Commission describes the Ph.D. as "a highly respected degree useful for advanced research work and for training students to undertake research." The Commission notes, however, that for people who plan to teach primarily "it (PH.D.) may not only give them a narrower training than their training merits but also create pressures both on them to undertake research tha does not interest them and on the institutions where they are employed to provide them with reduced teaching loads and facilities for their research."

cf. 4.12/4.13 DOCTOR OF ARTS DEGREE - #6 (16-18) for explanation of the Doctor of Arts Degree which is favored by the Commission for the nonresearch teacher. Card #101

#6 (16-17)

4.12/4.13

THE PH.D. DEGREE

The Carnegie Commission, although favoring the D.A. degree for prospective teachers (cf. 4.4 DOCTOR OF ARTS DEGREE - #6 (17)) suggests that the Ph.D. "should be continued as the appropriate degree for those who will undertake original research and train others to do so." The Commission warns, however, that the Ph.D. should be restricted as "a specialized degree for research personnel, for those who plan to pursue lifelong careers in scholarly investigation."

#6 (18)

The Carnegie Commission accepts the report of Folger, Bayer, and Astin that the average time that elapses between graduate school entry and Ph.D. completion is 8.5 years for all fields combined. Folger, et al. indicate that the time require to obtain the Ph. D. has been "shortest in the physical sciences, next shortest in biological sciences, intermediate in the social sciences, longer in arts and humanities, and longest in education."

The Commission discourages extending the already lengthy period, noting that "any further prolongment would be a most unfortunate development and we urge doctoral-granting institutions to take vigorous steps to prevent it."

Cf. 4.12, 4.13 TOTAL REGISTERED AND ELAPSED TIME FROM B.A. TO  
PH.D. - #6 (45) - C. # 1007.

#15 (154-155)

- 1030 -

4.12/4.13

INNOVATIVE WAYS OF ATTAINING PH.D. DEGREE

cf. 4.4 INNOVATIVE WAYS OF ATTAINING PH.D. DEGREE - #6 (18) -  
C. # 1185.

LITTON ADB - MCNEE

CONSORTIUM ARRANGEMENTS FOR PH. D. PROGRAMS

The Carnegie Commission recommends "far more extensive use of consortium arrangements that involve planning for concentration of development of Ph.D. programs in particular fields in individual members of the consortium as well as the rights of students to cross-register for individual courses or fields of concentration. Such plans should call for developing the strength of an individual institution in a group of related fields, such as the physical sciences or the social sciences."

#15 (160)

4.12/413

Ph.D. programs - more effective use of resources

To make more effective use of resources in relation to the students in attendance, the Commission suggests:

"Halting creation of any new Ph.D. programs except under very special circumstances, and concentrating Ph.D. training and federally supported research in fewer institutions."

#12 (17)



4.12/4.13

AWARDING PH.D. - RESIDENCY NOT REQUIRED

The Carnegie Commission recommends that "The Ph.D. should also be given to current students for a dissertation satisfactorily completed without the necessity of also fulfilling residence requirements."

#5 (18)

4.12, 4.13

PROJECTED ESTIMATES OF PH. D'S

The Carnegie Commission expresses concern that the surplus of Ph. D's noticeable in the 70's will increase, especially in the humanities, during the 1980's.

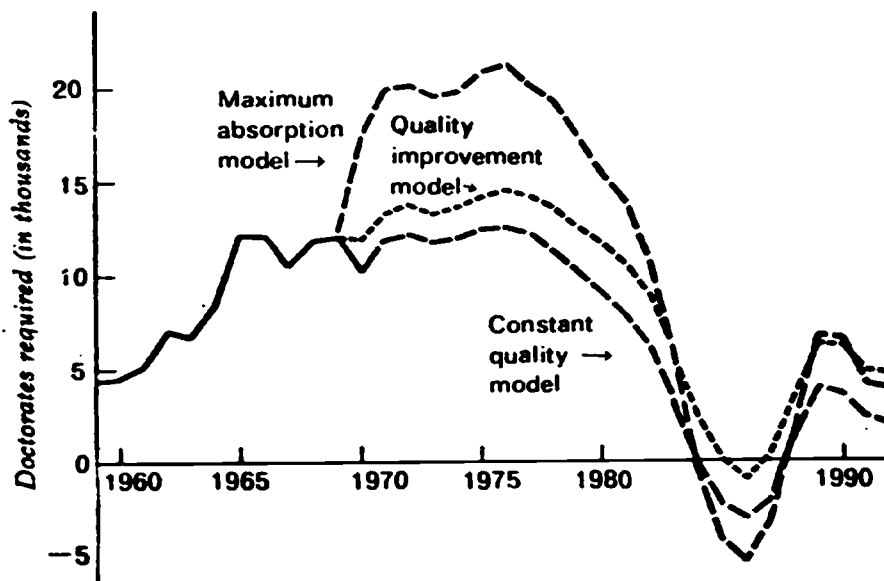
cf. 8.3 EMPLOYMENT PATTERNS - PH. D's - #15 (144) - C. #1366

#15 (144)

4.12/4.13

# PH.D.'S REQUIRED TO MEET ACADEMIC TEACHING NEEDS

CHART 24 *Ph.D.'s required to meet academic teaching needs*



- 1036 -

4.12/4.13

### EMPLOYMENT PROSPECTS FOR PH.D.'S

The Carnegie Commission anticipates the employment of male Ph.D.'s as the "most serious single problem" in the late 1970's and early 1980's.

Cf. 8.3 PROSPECTS FOR PH. D.'S - #15 (8). C. # 1367.

#15 (8)

- 1037 -

4.13

# ENGINEERING DOCTORATES - PREDICTED SURPLUS

The Carnegie Commission refers to the National Science Foundation (NSF) prediction of "a sizable surplus of engineering doctorates by 1980." The Commission notes, however, that "it does not appear that allowance has been made for such factors as the sensitivity of enrollment patterns to changes in the job market (Cf. 4.1 ENGINEERING PROGRAMS- TRENDS IN ENROLLMENT - C. #944 ) or the likelihood that minimal increases in the last few years in starting salaries of engineers...will induce employers to hire relatively more engineers with advanced degrees."

#15 (124)

**"College-and school-based vocational education will emphasize general knowledge common to broad groups of occupations in addition to providing training for specific skills."**

**#21 (91)**

4.2

CAREER TRAINING

cf. 4.4 REMOVAL OF CAREER TRAINING FROM CAMPUS - #R37 (31) -  
C. #1166.

# INDUSTRY AND INSTITUTION - VOCATIONAL SKILL TRAINING

The Carnegie Commission observes that "When they do not have skill-training expertise in their own companies, businesses will seek agreements with educational institutions to provide technical aid for the development of industry-based skill-training programs and for the evaluation of such programs."

#21 (91)



# OCCUPATIONAL AND VOCATIONAL EDUCATION FUNDS

The Carnegie Commission recommends that "state plans should place major emphasis on the allocation of vocational education funds to comprehensive community colleges rather than to post-high school area vocational schools or other noncollegiate institutions."

#3 (27)

# ALLOCATION OF FUNDS FOR "CAREER" EDUCATION

The Carnegie Commission observes that the public, "motivated by recognition of a shift in manpower needs and the rising costs of higher education," has "exerted pressure for new emphasis on vocational or 'career' education in the allocation of funds."

#21 (19)

# PERCENTAGE OF UNDERGRADUATES REGARDING OCCUPATIONAL TRAINING AS UNIMPORTANT

Percentage

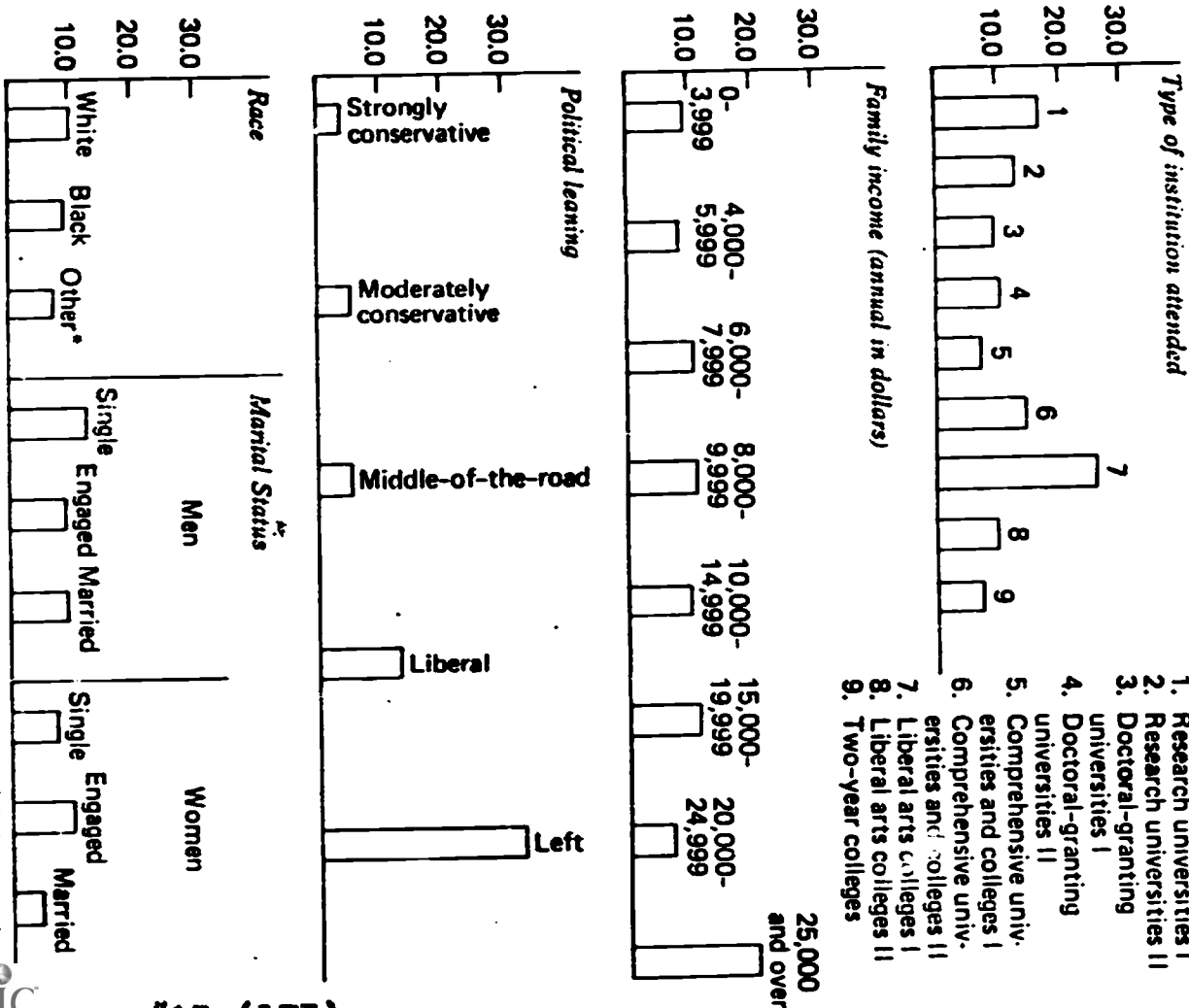


CHART 27 Percentage of undergraduates regarding training and skills for an occupation as not important among goals of a college education, by selected characteristics of students and their institutions.

SOURCE: Carnegie Commission Survey of Students and Faculty, 1969.  
\*Other includes Spanish-Americans, Mexican-Americans, American-Indians, and Asian-American

# AUDIO-VISUAL VOCATIONAL INSTRUCTION

cf. 7.3 AUDIO-VISUAL VOCATIONAL INSTRUCTION - #21 (91) - C. #1251.

RELATION OF CERTIFICATION TO EMPLOYMENT

8.3

cf. ^HIRING AND PROMOTING PRACTICES - #6 (14) - C. #1371.

## LABOR MARKET SITUATION

**Cf. 8.3 LABOR MARKET - #15 (1) for information on the condition of the labor market for college graduates which may affect considerations determining vocational curriculum. C. # 1338.**

**Cf. 8.3 all listings for information which may provide background data on market conditions for employment Cards # 1339 - 1343.**

ADJUSTING TO CHANGING LABOR MARKET

The Carnegie Commission recommends that "More attention should be paid to the occupational training interests of students, and to occupational counselling and guidance as students and adults seek to adjust to changing labor market conditions."

#17 (21)

NON-TRADITIONAL SKILLS

"Many of the nation's heaviest future manpower needs will be for skills which have not been taught in traditional college programs. Many colleges lack the appropriate human and physical resources for teaching such skills."

#21 (18-19)



OCCUPATIONAL PROGRAMS FOR NONTRADITIONAL STUDENTS

Of. 3.24 MORE NONTRADITIONAL STUDENTS ENCOURAGED - #21 (11) -  
C. #682.

HEALTH CARE - PROFESSIONAL TRAINING

Cf. 4.11/4.13 - C. #971, #972, and #193  
for information relative to Health Care academic programs

OCCUPATIONAL PROGRAMS - HEALTH CARE

The Carnegie Commission observes that "Occupational programs should be given fullest support and status within community colleges." Of special import is the future expansion of health-service professions, the training for many of which "can best be given in the community colleges."

#3 (1)

The Carnegie Commission recommends that "Vigorous efforts should be made at the state level to develop training programs in nursing and allied health professions in state colleges and community colleges in those states that have lagged in the past."

415 (96)

The Carnegie Commission recommends that "there should be increased emphasis in educational programs on providing experience in working with other health care personnel as a team."

**#15 (96)**

1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1  
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- 1054 -

4.2

## HEALTH CARE EDUCATION

The Carnegie Commission recommends that "University health science centers and area health education centers should provide leadership in encouraging the development and expansion of continuing education programs for nurses and allied health workers in appropriate educational institutions."

#15 (96)

HEALTH SERVICES - ADVANCEMENT

The Carnegie Commission expresses concern "with the growth of horizontal craftlike professions in the health services that impede vertical mobility."

#6 (14)

# PROPOSED LEARNING-TECHNOLOGY CENTERS

4.3

MAP 1. Suggested configurations of districts that might be served by cooperative learning-technology centers, with inclusion of numbers of under-graduate students (1968) in each



NOTE: Enrollment data from Carnegie Commission on Higher Education, 1971, pp. 134-135

#11 (54)



# DISPERSING EDUCATIONAL PROGRAMS

4.3

The need for dispersing some of the university's educational programs throughout the urban area can be seen in the:

- \* patterns of work
- \* patterns of residence
- \* transportation concerns
- \* need for better utilization of physical facilities

"New technological developments will aid greatly in accomplishing this dispersal."

#14 ( 50)

MANAGEMENT POLICIES - DEGREE PROGRAMS

"The Commission recommends that colleges and universities use great caution in adopting new degree programs and conduct periodic reviews of existing degree programs, with a view to eliminating those in which very few degrees are awarded, whether or not they are required to do so by state coordinating bodies."

#12 (104)

SPECIALIZED DEGREE PROGRAMS - MULTICAMPUS INSTITUTIONS

"In multicampus institution, there is a strong case for confining highly specialized degree programs to only one or two campuses within the system."

#12 (104)

LONG-RANGE PLANNING NECESSARY IN ENGINEERING PROGRAMS

The Carnegie Commission emphasizes the need for long-range planning in engineering programs to counteract the effects of a fluctuating job market on enrollments (Cf. 4.1 ENGINEERING PROGRAMS - TRENDS IN ENROLLMENT - #15 (120) ). The Commission suggests that planning measures include "adapt(ing) their resources to long-run trends in the demand for engineers, insofar as these can be determined from the various available projections...(and) utilizing temporary faculty personnel to some extent in periods of sharp enrollment increases in order to guard against having a surplus of tenured faculty members in periods when enrollment falls off."

#15 (126)

NEED FOR SEPARATE CONTINUING EDUCATION CENTER FOR WOMEN?

The Carnegie Commission observes that "Whether there should be a separate center for continuing education of women should be decided in the light of the circumstances prevailing on any given campus. We believe that there is often a case for a center primarily concerned with the educational problems of mature women, but that the need for such a center may be transitional and that in the future the concept of continuing educational opportunities for mature women is likely to be so thoroughly accepted that a center especially oriented toward women's problems may no longer be desirable or necessary."

#20 (158)

NEED FOR REVIEW OF COURSE OFFERINGS

"There is an acute need for policies requiring regular review, not only of proposals for new courses, but also of existing course offerings, where such policies are not in effect. Individual departments or schools are sometimes prone to give in to the desire of a particular faculty member to give a course in a specialized aspect of his discipline simply to suit his own interests."

#12 (68)

RELEASING FUNDS FOR PROGRAM CHANGES

Six approaches being used by institutions of higher education to release funds for program expansion or development include:

- " (1) selective cutbacks,
- (2) across-the-board percentage cuts in budgets,
- (3) consolidation of existing programs,
- (4) readaptation of existing programs,
- (5) application of Harvard University's 'every tub on its own bottom' approach, and
- (6) central reassignment of vacated positions."

cf. 9.1 ENSURING BUDGETARY FLEXIBILITY - #12 (103) - C. #1462.

#12 (94)

ACADEMIC COUNSELING - TESTING BENEFITS

cf. 3.24 TESTING - EVALUATING NEEDS AND ACCOMPLISHMENTS OF STUDENTS -  
#13 (53) - C. #836.



ACCEPTING TRANSFER CREDITS

cf. 3.24 TRANSFER STUDENTS - #2 (12) for recommendation to accept transfer credits of community college students - C. #829.

ACADEMIC AFFAIRS

cf. 2.12 COLLECTIVE BARGAINING - CONTRACT COVERAGE - #16 (49) - C. #216 -  
for recommendation that academic affairs should be left in the  
hands of the faculty senate or equivalent council.

4.3

1066

# ACADEMIC POLICIES

The institution's instructional independence is supported by the Carnegie Commission in their recommendation that academic policies set by state agencies should be broad in nature.

cf. 2.32 STATE INFLUENCE - ACADEMIC POLICIES - #16 (29) - C. #288.

**"Colleges and universities have a responsibility to develop policies specifically designed to bring about changes in the attitudes of administrators and faculty members, where these have been antagonistic to enrollment of women in traditionally male fields."**

**#20 (79)**

MANAGING RESOURCES IN COMPENSATORY EDUCATION

"The Commission recommends that every student accepted into a program requiring compensatory education receive the necessary commitment of resources to allow his engagement in an appropriate level of course work by the end of no more than two years."

#2 (14)

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- 1070 - 4.5

Department size - more effective use of resources

To make more effective use of resources in relation to the students in attendance, the Commission suggests:

"Achieving minimum effective size...for departments within campuses, particularly at the graduate level."

#12 (17)

# TECHNOLOGICAL DISTRIBUTIONS

4.3

TABLE 3 Distribution of students and expenditures for instructional computer use, by academic field, 1966-67 (percent of total students and expenditures in each field)\*

Field	Level of instruction					
	Undergraduates		Graduates		Total	
	Students	Expenditures	Students	Expenditures	Students	Expenditures
Engineering	35.2	23.9	33.0	25.7	34.9	24.5
Computer science	23.2	28.5	16.3	14.6	22.2	24.0
Business/commerce	26.0	20.3	2.6	13.2	22.6	18.0
Mathematical subjects	2.2	15.3	12.8	7.0	3.7	12.6
Physical sciences	4.8	3.7	8.2	16.3	5.3	7.8
Social sciences	2.6	2.2	7.4	4.8	3.3	3.0
Psychology	1.2	1.8	3.2	4.2	1.5	2.6
Education	0.9	1.3	6.8	3.9	1.8	2.2
Agriculture/forestry	1.3	0.9	3.6	3.8	1.7	1.8
Biological sciences	0.8	0.7	1.3	2.8	0.9	1.4
Health professions	0.1	0.2	3.1	2.4	0.6	1.0
Humanities/folklore	0.4	0.5	0.5	0.5	0.4	0.5
Military science	0.1	0.3			0.1	0.2
Architecture/city planning	0.3	0.1	0.6	0.3	0.4	0.2
English/journalism	0.1	0.1	0.4	0.1	0.1	0.1
Law	0	0	0.01	0.2	0	0.1
Home economics	0.6	0	0.03	0.1	0.5	0.05
TOTALS	100.0	100.0	100.0	100.0	100.0	100.0

#11 (42)

# PROJECTED EXPENDITURES

4.3

**TABLE 1**  
*Projected expenditures per student on instructional computer use for 1971-72 (based on 1966-67 data and growth rate for all computer activity in higher education between 1966-67 and 1967-68)*

Degree level and enrollment	Projected average expenditure (in actual dollars)		Number of institutions	
	Public	Private	Public	Private
<b>Associate</b>				
Below 500	36	16	100	187
500-2,499	38	3	258	87
2,500-9,999	19	•	116	4
10,000-19,999	25	†	23	†
Over 20,000	†	†	†	†
<b>Bachelor's</b>				
Below 500	19	3	10	8
500-2,499	16	11	65	112
2,500-9,999	22	8	24	15
10,000-19,999	•	25	1	1
Over 20,000	†	†	†	†
<b>Master's</b>				
Below 500	•	25	4	97
500-2,499	8	27	40	156
2,500-9,999	16	22	133	58
10,000-19,999	14	19	8	2
Over 20,000	14	†	10	†
<b>Doctorate</b>				
Below 500	5	19	4	11
500-2,499	99	85	29	61
2,500-9,999	33	82	43	94
10,000-19,999	30	55	17	100
Over 20,000	36	16	6	100

#11 (97)



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4.3

INSTRUCTIONAL EXPENDITURES

cf. 9.1 EDUCATIONAL AND GENERAL EXPENDITURES - #12 (165)(170)  
Card #1476 and # 1482.

# IMPORTANCE OF OUTPUT CRITERIA FOR BUDGET REQUESTS

cf. 9.1 RELATION OF OUTPUT CRITERIA TO BUDGET REQUESTS - #12 (109) - C.  
# 1463.

## EVALUATING EDUCATIONAL ACCOMPLISHMENTS

The Carnegie Commission suggests a system which "will make possible the identification of each individual's educational accomplishments by specifying particular educational goals, educational activities undertaken, and levels of accomplishment for such goals." Such a system will include the following objectives:

- " Colleges and universities will successfully resist pressures to grant degree credit for those activities and experiences that are not clearly planned as part of an academic learning program designed to meet the educational goals recognized by the degrees offered.
- . Institutions of postsecondary education will grant degrees, certificates, and honors at more frequent intervals than they now do.
- . Undergraduate and professional degrees will increasingly become only a part of the cumulative record of an individual's educational accomplishments. Ultimately, the degrees will become less important than the total record as evidence of such accomplishments."

#21 (77)

ACADEMIC EVALUATION

cf. 2.5 DUAL SYSTEM OF ACCREDITATION - #21 (7) for innovation in academic evaluation - C. #327.

The Carnegie Commission recommends that "There should be no erosion of intellectual standards." The Commission regrets the abandonment of differential grading and the renouncing of standards which have occurred in some institutions. The Commission further emphasizes that improving academic quality depends "more upon better policies than...on more money."

#22 (31)

ANTICIPATED CHANGES IN ACADEMIC EVALUATION

cf. 4.4 ANTICIPATED CHANGES IN ACADEMIC EVALUATION - #R37 (36)  
C. #1120.

SHORTER DEGREE PREPARATION TIME

The Carnegie Commission recommends that "the time to get a degree be shortened by one year to the B.A. and by one or two more years to the Ph.D. and to M.D. practice."

cf. 4.0 DEGREE STRUCTURES - CURRENT AND PROPOSED - #5 (22) - C. #889.

4.4 REDUCING THE TIME FOR LOWER DIVISION - #6 (16) - C. #1116.

#6 (15)

- 1080 -

4.31

DEGREE STRUCTURE - TWO-YEAR AWARD

cf. 4.4 TWO-YEAR ACADEMIC MODULES AND DEGREES - #6 (15)-c. #1114.



Degree Awarding

"The Commission reiterates its recommendation for greatly reducing the number of different types of degrees awarded in higher education."

#12 (58)

4.31

# TWO-YEAR REASSESSMENT

The Carnegie Commission suggests that "not only should students be encouraged to reassess their plans every two years, but the institution should also reassess each student.."

cf. 4.11 BEYOND LOWER DIVISION - #6 (15)- C. #967.

# NON-TRADITIONAL CREDIT

The Carnegie Commission recommends continuing the policy of some state institutions of higher education to award credit for work completed in a non-traditional way or in a non-traditional setting. For example, the Commission notes that "some universities and colleges now permit a portion of the required credits for a degree to be earned through correspondence work in courses offered through TV or radio, or by examination through the College-Level Examination Program."

#6 (43)



4.31

CREDIT FOR WORK EXPERIENCE

The Carnegie Commission recommends that the "expansion of post-secondary educational opportunities be encouraged outside the formal college in apprenticeship programs, proprietary schools, in-service training in industry, and in military programs; that appropriate educational credit be given for the training received; and that participants be eligible, where appropriate, for federal and state assistance available to students in formal colleges."

#5 (13)

TRANSFER CREDIT - MILITARY TRAINING

"Educational activity provided by the armed forces to officers and enlisted men at postsecondary levels will yield credit that is widely accepted as servicemen are transferred from military base to military base. Some of this instruction will be of a quality that is widely accepted for course credit in civilian educational institutions after the serviceman student is discharged."

#21 (94-95)

GENERAL PHILOSOPHY OF COMMITTEE REGARDING INNOVATION

Believing that the learning process will continue to absorb more and more of the life activities of more Americans, the Carnegie Committee recommends that "learning opportunities should respond to the new dimensions of the life-and-learning process."

#6.(3)

LITTON 400 - 000

ENCOURAGEMENT OF MORE FLEXIBLE PROGRAMS

"The Commission reiterates the recommendations that were made in its report Less Time, More Options (#6) to encourage more flexible patterns of participation in higher education."

#9 (117)



# PROPOSED MODIFICATIONS IN THE STRUCTURE OF POSTSECONDARY EDUCATION

The Carnegie Commission proposes the following modifications in the structure of postsecondary education:

1. to shorten the length of time in formal education
2. to provide more options to formal college education
3. to make educational opportunities more appropriate to lifetime interests
4. to make certain degrees more appropriate to the positions to which they lead
5. to make educational opportunities more available to more people, including women, employed persons, older people, and persons from the lower income levels.

#6 (11-12)

ACADEMIC OPTIONS

The Carnegie Commission recommends that "Schools and colleges should experiment with different structural models designed to provide a student with options that will enable him to find the right program at the right time. Such experimentation challenges the current structure and its traditional break between school and college at the end of grade 12. Liberal arts colleges should consider enrolling students as early as grade 11 and awarding the bachelor's degree after grade 14 or 15...students should be able to 'test out' of high school graduation requirements; there should be expanded programs of college credit for the senior year of high school, concurrent enrollment of students in school and college, and early admission to college; options other than college attendance should be made available for high school graduates."

#19 (83)

# Innovations in instruction - more effective use of resources

To make more effective use of resources in relation to the students in attendance, the Commission suggests:

"Creating more alternatives off campus through 'open' universities; credit by examination; and so forth - saving capital expenditures and increasing competition with traditional approaches."

#12 (18)

**GOALS FOR THE FUTURE IN POST-SECONDARY EDUCATION****BY 1980:**

- Community colleges spread across the nation.
- Associate in Arts degrees generally available in all colleges.
- "Youth service" programs widely established.
- State planning includes all postsecondary education.
- Federal support to students includes all postsecondary education.
- The average length of time to a B.A. degree shortened initially to 3½ years, on the average, and then to 3 years.
- The average length of time to a Ph.D. degree shortened to 4 years after the B.A.
- The standard length of time to an M.D. degree shortened to 3 years and of a residency to 3 years.
- The Master of Philosophy and Doctor of Arts degrees generally accepted.
- "Sandwich" programs introduced at more institutions.
- Experiments undertaken with "open universities."
- An "educational security" program in advanced planning stages.
- Tests fully developed and accepted in lieu of formal course work and in lieu of college credit.

**BY 2000:**

- "Open universities" well established.
- An "educational security" program in full operation.

**N.B.**

These reforms, if accomplished, would be the most significant undertaken since the modern system of higher education emerged from the classical college beginning a century ago.

1093

4.4

## ATMOSPHERE FOR INNOVATION

To assure the atmosphere most conducive to beneficial and needed changes, the Carnegie Commission suggests "more latitude for departments and schools and cluster and theme colleges to innovate, subject only to minimum standards in advance and careful review subsequently."

#13 (61)

INNOVATIONS

The Carnegie Commission recommends that public authorities should influence, not control, innovations.

cf. 2.3 EXTERNAL INFLUENCE - INNOVATIONS - #16 (29) - C. #261.

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ACADEMIC EXCELLENCE THROUGH COOPERATION

cf. 7.8 COOPERATIVE LIBERAL ARTS CENTERS - #9 (94) for suggested shared facility to provide academic support for improved undergraduate education - C. #1310.

Although acknowledging the innovative impact of academic deans and individual faculty members as well as the efforts of councils and boards of studies, the Carnegie Commission concludes that "the main instrument of change historically in the United States, however, has been the president of the institution... (who) is the main innovator at the macro level, drawing many or most or even all his ideas from faculty committees and faculty members."

**#13 (62-63)**



STUDENT/FACULTY ATTITUDE TOWARD CHANGES

cf. 3.22/3.24 CHANGES DESIRED BY STUDENTS AND FACULTY - #13(2)  
C. #572.

FEDERAL AID TO ACADEMIC INNOVATIONS

Cf. 3.13 NATIONAL FOUNDATION FOR THE DEVELOPMENT OF HIGHER ED.  
#1 (45) - C. #522.

# INNOVATIONS - FUNDING

The Carnegie Commission recommends that "One to three percent of all funds should be taken each year from existing programs, set aside as a self-renewal fund, and directed to new or expanded programs."

#13 (65)

# 100 4.4 PROPOSED FLOW OF EDUCATION BEYOND THE HIGH SCHOOL

1. *High school graduation*

Enter employment  
Stop out for work or service experience  
Enter college

2. *After A.A. degree*

Enter employment  
Stop out for work or service experience  
Continue in college

3. *After B.A. degree*

Enter employment  
Stop out for work or service experience  
Continue in college

4. *After M.Phil. degree*

Enter employment  
Continue in college  
Receive Ph.D. for published research and completion of any further subject matter requirements deemed necessary for the particular applicant

5. *After D.A. degree*

Enter employment  
Receive Ph.D. for published research

6. *From employment*

Receive certification of competence without degree  
Take achievement test for degree  
Reenter college at any time

INCREASED FLEXIBILITY IN OBTAINING DEGREE

The Carnegie Commission notes the increased flexibility in the options available for obtaining college degrees, including:

- . the College Level Examination Program
- . tv and radio college-level courses
- . "Open University"
- . external degree programs

#6 (20)

OPTIONS AVAILABLE IN THE UNITED STATES FOR OBTAINING A DEGREE

Cf. #6 Appendix E for details of programs which are available in the United States for obtaining a degree.

### FUTURE ROUTES FOR OBTAINING A DEGREE

The Carnegie Commission observes that "the future holds the possibility for even greater flexibility in the routes by which persons may obtain degrees

- Video cassettes and computer-assisted instruction can turn the home into a classroom. In Japan, the Ministry of Education intends to establish an "open university" by 1972 relying heavily on video cassettes that would be available on a rental basis.
- Expansion of college-level examination programs and greater use of off-campus instructional programs may eventually make it possible to earn degrees without any college residence. "

ALTERNATE DEGREE ROUTES - INCREASED ACCESSIBILITY

The Carnegie Commission recommends "that alternative avenues by which students can earn degrees or complete a major portion of their work for a degree be expanded to increase accessibility of higher education for those to whom it is now unavailable because of work schedules, geographic location, or responsibilities in the home."

#6 (20)



### Current and proposed changes in degree structures:

- 1 Incorporation of the last year of high school into the first year of college
- 2 Incorporation of the first year in college into the last year of high school
- 3 A change to the three-year, rather than a four-year, bachelor of arts degree either through reducing requirements or through operating on a year-round basis
- 4 Credit given to students by examination for work accomplished outside the formal classroom
- 5 Integration of bachelor's and master's programs
- 6 Horizontal integration of overlapping or duplicating programs
- 7 Development of new types of master's programs that will provide more effective preparation for teaching in community colleges and, to some extent, in four-year colleges (e.g., the M. Phil. degree)
- 8 Placing greater emphasis on other two-year master's programs of a professional type, e.g., the Master in Human Biology degree, which would prepare an individual to be a physician's assistant, to teach at an appropriate level, or to go on for an M.D., D.D.S., or a Ph.D.
- 9 Emphasizing development of a four-year Doctor of Arts degree as the standard degree for college teachers and for many positions in government, industry, and academic administration
- 10 Reducing the length of time required to complete the work for the Ph.D. and the M.D. degrees

#12 (49)

CHANGES IN DEGREE STRUCTURE

"The Commission reiterates the recommendations made in its report, Less Time, More Options, for changes in degree structures."

#12 (58)

# LENGTH OF TIME TO EARN DEGREE

The Carnegie Commission recommends "reducing the length of time it takes for students to earn degrees."

#9 (8)

VARIABLE TIME OPTIONS FOR STUDENTS

The Carnegie Commission recommends the "Introduction of variable time options for students, especially a three-year degree program for the A.B. degree."

#22 (92)

THREE-YEAR B.A.

"We (Carnegie Commission) estimate that about one-third of the capital costs that would have to be incurred in the 1970s to accommodate increased undergraduate enrollment could be saved if there were a general shift to a three-year B.A."

#12 (54)

THREE-YEAR DEGREE -DANGERS

The Carnegie Commission warns that "A three-year degree can squeeze time for broad learning more than it squeezes work in the major unless care is taken to prevent this from happening."

cf. 4.0 BROAD LEARNING EXPERIENCE - #13 (45) - . #905.

#13 (45)

SHORTER TIME OPTIONS TO BACHELOR'S DEGREE

The Carnegie Commission proposes the following alternatives to provide shorter time options to the bachelor's degree:

- "Specially designed three-year bachelor's degree program
- Acceleration through course overload or summer school
- College credit for the senior year at high school through either the accreditation process or testing programs (advanced placement, college level examination program, or other tests)
- Early admission of high school students, either at the end of grade 10 or grade 11...
- Concurrent enrollment in school and college"

#19 (6)

# PROPOSED DEGREE STRUCTURE

4.4

TABLE 3 Degree structures—current and proposed

Current		Proposed	
Years	Degree	Years	Degree
2	Associate in Arts (community colleges only)	2 (1 or 1½)*  Later: 1 or 1½ (2)	Associate in Arts (available in all colleges)
4	Bachelor of Arts	4 (3)  Later: 3 (4)	Bachelor of Arts
5	Master of Arts	5 (4)  Later: 4 (5)  6 (5)  Later: 5 (6)	Master of Arts    Master of Philosophy
8-10 or more†	Ph.D.	8 (7)  Later: 7 (8)	Doctor of Arts and Ph.D. (as specialist degree)
8	M.D.	7 (6)  Later: 6 (?)	M.D.
12	Completion of residency for Medical Doctors	10 (9)  Later: 9 (10)	Completion of residency
Short-term	Certificate (community colleges only)	Short-term	Certificate (available in all colleges)

#6 ( 22)



ACCELERATED DEGREE PROGRAMS - EFFECT ON RESOURCE MANAGEMENT

cf. 3.0 CAPITAL INVESTMENTS - IMPACT OF ACCELERATED DEGREE PROGRAMS  
#12 (122) - C. # 345.

9.1 OPERATING COSTS - SAVINGS THROUGH INSTRUCTIONAL INNOVATIONS -  
#6 (23) - C. #1469.

# TWO-YEAR ACADEMIC MODULES AND DEGREES

The Carnegie Commission recommends that "a degree (or other form of credit) be made available to students at least every two years in their careers (and in some cases every year)." The Commission suggests a four-level structure (A.A., B.A., M.Phil., D.A. or Ph.D.) instead of the present system.

cf. 4.31 TWO-YEAR REASSESSMENT - #6 (15) - c. #1082

#6 (15)

DEGREE AWARDING AFTER TWO-YEAR MODULE OF LEARNING

In proposing more options for postsecondary education, the Carnegie Commission recognizes the desirability of shorter "modules of learning." Following the suggestion, therefore, the Commission proposes "that a degree be available after each two-year module in colleges and universities."

#21 (5)

REDUCING THE TIME FOR LOWER DIVISION

The Carnegie Commission supports its recommendation that the time to get an undergraduate degree be shortened by one year by suggesting that "high schools can be accredited by state university systems and by consortia of private colleges to give the equivalent of the first year of work in college."

#6 (15-16)

- 1117 -

4.4

### ONE-YEAR LOWER DIVISION

The Carnegie Commission suggests that "the first year in college can also be made more challenging and useful. Thus the lower division in college could soon become a one-year program except for those needing remedial work."

#6 (16)

FIRST YEAR COLLEGE EXPERIENCE

Alexander Mood disagrees with the Carnegie Commission's proposal to have the freshman year of college completed in the last year of high school (Of. 4.4 REDUCING THE TIME FOR LOWER DIVISION- #6 (pp. 15-16) - C. #1116)

Mood maintains that the primary purpose of higher education should be to provide a situation in which youth can practice making basic decisions affecting their own lives (Of. 1.4 STUDENT-ORIENTED GOAL OF INSTITUTION - #R37 (67)- C. #136.)

Mood supports his objection to the Commission's recommendation by declaring that "the goal (reviewed above) cannot be carried out very effectively in high school because youths in high school are too much under the influence of adults—particularly parents.

#R37 (69)

CERTIFICATION

Alexander Mood recommends that "Higher education should abandon its certification function...(which) conflicts with the educational aim of higher education; it puts students and professors in an adversary position with respect to each other whereas true education requires that they be in collaboration."

#R37 (86)

# ANTICIPATED CHANGES IN ACADEMIC EVALUATION

Alexander Mood asserts that in the future students will no longer be classified according to the present system of academic evaluation. Mood goes so far as to maintain that "it is a reasonable assumption that higher education will soon divest itself of all the antieducational paraphernalia having to do with examinations, grades, degrees, certification, transcripts, and the like. That single reform may do more than anything else to increase the effectiveness of institutions of higher education in facilitating learning."

#R37 (36)



INNOVATIVE OUTCOME MEASUREMENTS

Alexander Mood recommends that "Teaching should be evaluated. A major component of the evaluation would be judgment of a teacher's competence by his students. Another might be measurement of how much students have learned using tests given at the beginning and end of the course. Another might be the extent to which students were stimulated to continue studying the subject as measured by their rate of enrollment in more advanced courses."

#R37 (90)

# THE ABOLITION OF GRADES AND THE ELIMINATION OF REQUIRED COURSES

The Carnegie Commission reports that "there is no general agreement on two other widely discussed changes:

- . the abolition of grades
- . the elimination of all required courses"

cf. 3.22/3.24 STUDENT AND FACULTY VIEWPOINTS ON CHANGES - #13 (14) - C. #572.

#13 (2)

EXPANDED TRANSCRIPT

In suggesting "more emphasis on a cumulative record of achievement and less on the academic degree by itself," the Carnegie Commission recommends "an expanded version of the transcript with enhanced attention to other methods of accomplishment in addition to the receipt of a degree or even in lieu of a degree." The Commission suggests including "credit by examination, extra-curricular activities, service experience, and so forth."

One drawback to the expanded transcript noted by the Commission is the possible hesitancy of employers to use a method of evaluation which "is more time-consuming and involves more judgment than notation of a degree earned."

#21 (6) (8)

- 1124 -

4.4

# FUNDING FOR DEVELOPMENT OF NEW TECHNIQUES FOR ASSESSING COMPETENCIES

cf. 3.13 GRANTS FOR TESTING COMPETENCIES - #14 (117) - c. #512.

LOOSENING EDUCATIONAL STRUCTURES

The Carnegie Commission recommends "loosening educational structures and rules so that young persons can stop out of education and adults can enter more readily."

#9 (8)

# TECHNOLOGICAL INNOVATIONS

4.4

TABLE 2  
Use of closed  
circuit television  
in higher  
education by  
subject area

Subject area	Number of institutions reporting use		
	Lower division	Upper division	Graduate
Agriculture	9	2	2
Business administration	36	23	7
Economics	28	8	1
Education	73	129	78
Engineering	33	32	18
English	71	36	5
Fine arts	63	41	13
Foreign language	34	17	5
History	43	20	2
Humanities	47	22	9
Health/physical education	62	32	5
Life sciences	83	36	14
Mathematics	44	14	7
Military training	11	12	3
Political science	29	16	4
Physical science	71	30	7
Social science	95	49	24
Speech and drama	123	96	28
Technical and vocational	38	20	11
Professional			47
Law		1	6
Medical			63
Nursing	1	1	58
Theology			14

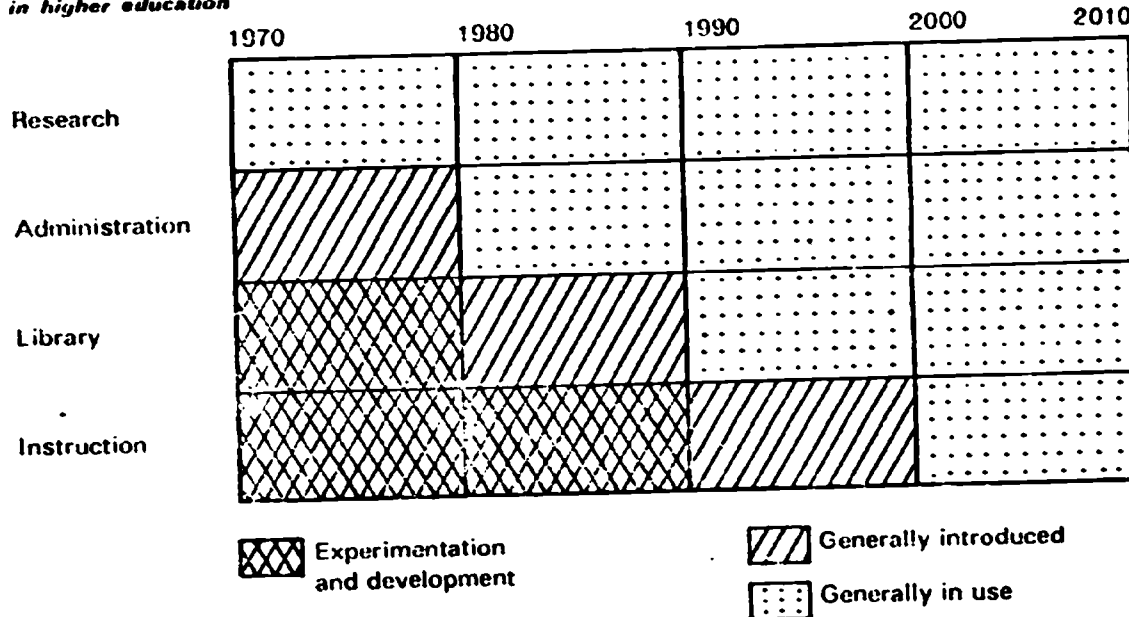
SOURCE: Department of Audiovisual Instruction, National Education Association,  
A Survey of Institutional Closed Circuit Television, 1967, pp. 34-35.

#11 (41)

# INFORMATIONAL TECHNOLOGY

4.4

**FIGURE 1** *Estimated use of electronic technology (computers, "cable" television, videocassettes) in higher education*



SOURCE: Staff of the Carnegie Commission on Higher Education.

#11 (2 )

# FACULTY EXPECTATIONS in TECHNOLOGY

4.4

**TABLE 1** *Faculty mean predictions of availability and routine undergraduate and graduate use, and technologists' mean predictions of routine use of nine basic technologies*

	<i>Faculty predictions of avail- ability</i>	<i>Technologists' predictions of routine use</i>	<i>Faculty predictions of routine use for undergraduates</i>	<i>Faculty predictions of routine use for graduates</i>
<i>Routine audiovisual technology</i>	1972	1974	1975	1989
<i>Programmed instruction</i>	1975	1976	1982	2010
<i>Routine computer-assisted instruction</i>	1977	1979	1982	1992
<i>Computer simulation</i>	1979	1979	1983	1985
<i>Advanced computer-assisted instruction</i>	1984	1989	1992	1996
<i>Computer-managed instruction</i>	1986	1983	1995	2005
<i>Remote classroom feedback</i>	1974	1979	1984	1996
<i>Student-initiated access to audiovisual</i>	1975	1979	1979	1986
<i>Computer-aided course design</i>	1983	1983	1992	2003

SOURCE: Wilcox, 1972.

#11 (39)



# SOME INSTRUCTIONAL MEDIA CHARACTERISTICS

4.4

TABLE 2 Characteristics and costs of various instructional media (1969)

Instructional medium	Can user carry it around?	Can user use it individually at school or college?	Can user use it individually at home?	Can user determine when it is to be used?	Can user control rate of information flow and repeat if not understood?	Can user interact actively with input?	Is individualized "branching" possible?	Senses used	Can signals be sent on electronic network?	Costs (dollar per hour of use)
1 Class lecture	No	No	No	No	Rarely	No	No	Vision and Audition	No	0.15-3
2 Small discussion group	No	No	No	No	Sometimes	Yes	Rarely	Vision and Audition	No	0.50-15
3 Books and journals	Yes	Yes	Yes	Yes, unless another user has it	Yes	No	No	Vision	No	0.05-10
4 Printed programmed instruction	Yes	Yes	Yes	Yes	Yes	No	Yes	Vision	No	0.05-10
5 Computerized programmed instruction	No	Yes	Rarely	Yes, unless number of terminals is limited	Yes	Yes	Yes	Vision and Audition	Yes	2-25
6 On-line computer aids to learning and scholarship	No	Yes	Rarely	Yes, unless number of terminals is limited	Yes	Yes	Yes	Vision	Yes	5-100
7 Closed-circuit lectures on public address system	No	No	No	No	No	No	No	Audition	Yes	0.02-2
8 Educational radio	No	Yes	Yes	No	No	No	No	Audition	Yes	0.01-1
9 Dual access audio tape recordings	No	Yes	Rarely	Yes	In some systems	Rarely	No	Audition	Yes	0.01-2
10 Broadcast live instructional TV	No	Yes	Sometimes	No	No	No*	No	Vision and Audition	Yes	0.02-10
11 Closed-circuit live instructional TV	No	Yes	No	No	No	No*	No	Vision and Audition	Yes	0.03-3
12 Broadcast tape-recorded instructional TV	No	Yes	Sometimes	No	No*	No*	No	Vision and Audition	Yes	0.01-5
13 Closed-circuit tape-recorded instructional TV	No	Yes	No	No	No*	No*	No	Vision and Audition	Yes	0.03-2
14 Dual-access instructional TV	No	Yes	No	Yes, unless number of terminals is limited	Sometimes	Rarely	No	Vision and Audition	Yes	0.50-5

#11. (98-99)

- 1130 -

4.4

INNOVATIONS IN ACADEMIC SUPPORT - AUDIO-VISUAL AIDS

cf. 7.8 INNOVATIONS - THE VIDEO UNIVERSITY -#R37 - C.#1306  
7.8 USE OF TELEVISION NETWORK - #R37 (48) - C. #1305

USE OF NEW TECHNOLOGY

The Carnegie Commission recommends that "There should be greater use of the new electronic technology as a supplement to and an alternative for traditional teaching."

#22 (28)

INSTRUCTIONAL USE OF COMPUTER

cf. 7.4 INSTRUCTIONAL USES OF COMPUTER - #11 (22-23) - C. #1281.

INCREASED USE OF TECHNOLOGY

Cf. 7.3/7.4 ADVANCEMENT OF TECHNOLOGY - #11 (46) - C. #1255.

TECHNOLOGY AND INSTRUCTION

cf. 7.3/7.4 all headings-for information relative to technology  
and instruction - Cards #1253 - #1280.

SUPPORT FOR SYSTEMATIC EXPERIMENTS WITH REMEDIAL EDUCATION

Cf. 3.13 GRANTS FOR REMEDIAL EDUCATION - #14 (117)- C. #513.

"The Commission recommends the initiation of programs for an individualized 'foundation year'\* available on an optional basis to all interested students."

**\*first-year period in which students are given intensive counseling and wide latitude to find a program that fits their interests and needs.**

cf. 8.3 C. #1333, #1334 for detailed information about the "Foundation Year"

**#2 (13-14)**



GENERALISTS ON FACULTIES

cf. 3.25 USE OF GENERALISTS ON FACULTIES - #R37 (30) - C. #858.

## NEW METHODS OF EVALUATING TEACHING PERFORMANCE

In addition to the standard methods of evaluating teaching performance, the Carnegie Commission suggests:

- . incorporating students into the evaluation process
- . assigning teaching loads in universities differentially
- . allowing superior teachers to rise more nearly to as high salary levels as superior research persons
- . establishing Doctor of Arts and Master of Philosophy degrees
- . applying greater emphasis on awards to honor outstanding teachers
- . creating "teaching funds" to parallel research funds

#13 (48-49)

# DETERMINING DESIRABILITY OF EXPERIMENTAL PROGRAMS

The Carnegie Commission recommends that "both planning agencies and urban-located institutions review and analyze the educational resources in their areas and the educational needs of urban students to determine whether use of such experimental approaches as those described above, or others that may be developed are desirable to expand effective options for postsecondary educational opportunities in the metropolitan areas."

#14 (60)

# A LIVING-FOCUSED CURRICULUM

Alexander Mood suggests that future curriculum "would be organized to focus on the basic decisions that young adults must make about how they plan to live." Mood elaborates by detailing how "courses and seminars would deal with the range of workable personal philosophies and their pros and cons," as well as "with models of social organization of the future."

#R37 (68-70)

NEED FOR HIGHLY PERSONALIZED EDUCATION

cf. 14 STUDENT-ORIENTED GOAL OF FUTURE INSTITUTIONS - #37 (32)-  
c. #137 - for author's suggestion that the student-oriented  
goals of future institutions can be accomplished only  
by "highly personalized education."

#R37 (32)

CHANGES IN STUDENT INTERESTS AND CONCERNS

Cf. 4.0 PROGRAM RESPONSE TO CHANGING NEEDS IN OCCUPATIONAL FORCE -#15 (21)-  
C. # 919.

for Commission's recommendation that flexibility should be exercised in  
changing programs to meet new student interest and concerns in career  
opportunities.

DEVELOPMENT OF NEW PROGRAMS - FUNCTIONS

cf. 1.6 EDUCATIONAL MISSION CONSIDERATION - #21 (99-100) for relationship between mission and development of new programs or establishment of new educational functions - C. # 13.

# REORGANIZATION OF CURRICULA TO AVOID WASTEFUL DUPLICATION

Alexander Mood suggests that "Curricula should be reorganized to enable persons to climb career ladders without wasteful duplication of educational effort (as, for example, nurses must undertake if they wish to become M.D.'s)."

#R37 (89)



# CAREER TRAINING LADDERS

The Carnegie Commission recommends that "In virtually all professional fields, increased attention should be devoted to providing students with opportunities to proceed along carefully planned and at the same time flexible career training ladders."

#15 (140)

# EDUCATION LEAVE PROGRAMS

"Enlisted men, as well as officers, will have increasing opportunities to participate in postsecondary education at civilian centers of postsecondary learning through education leave programs subsidized by the armed services."

#21 (95)

## GENERAL EDUCATION CURRICULUM IN THE FUTURE

Alexander Mood suggests that in the future general education "will be primarily concerned with broad general education specifically concerned with helping students orient themselves. It will not be concerned with preparation of careers but with developing personal criteria for choice of careers and choice of lifestyles." What author Mood continues to suggest is the removal of career training and the traditional cultural courses from the curriculum, an action which will alter not only the character of undergraduate education but also its duration.

#R37 (33)

JOINT DEGREE PROGRAMS

"Professional schools and academic departments should cooperate in the development of joint degree programs in response to emerging societal problems and in response to the advancement of knowledge or technological change."

#15 (141)

# OPPORTUNITIES FOR REENTRY

The Carnegie Commission recommends that "opportunities be created for persons to reenter higher education throughout their active careers in regular daytime classes, nighttime classes, summer courses, and special short-term programs, with degrees and certificates available as appropriate."

#6 (19)

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- 1150 -

4.4

"SHORT-CYCLE" PROGRAMS

To assure more opportunities in colleges for part-time and for adult students the Carnegie Commission recommends "more 'short-cycle' programs."

#21 (5)

INDEPENDENT STUDY - ADVANTAGES

"Independent study courses encourage flexibility and variety, and can be tailored to the student's individual interests. They also facilitate the dropping of course offerings that are attracting too few students."

#12 (67)

INNOVATIVE PROGRAMS IN BUSINESS ADMINISTRATION FOR ADULTS

Cf. 4.1 BUSINESS ADMINISTRATION PROGRAMS - TRENDS IN ENROLLMENT - #15 (118-119) for Carnegie Commission recognition of attractiveness of business administration programs which utilize external degree and part-time study. Card #948.



1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1  
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- 1153 -

4.4

## ADAPTATION OF TEACHER-TRAINING PROGRAMS TO CHANGING NEEDS

The Carnegie Commission recommends that "High priority should be given to adaptation of teacher-training programs to changing needs. There should be increased emphasis on specialized training to prepare teachers for service in ghetto schools, in programs for mentally retarded or physically handicapped children, in early child development programs and day-care centers, and in vocational education programs."

#15 (79-80)

"SANDWICH" PROGRAMS

The Carnegie Commission recommends that "opportunities be expanded for students to alternate employment and study, such as the 'sandwich' programs in Great Britain and the programs at some American colleges."

cf. #6 (39-40) Appendix C: Sandwich Programs in Great Britain and Cooperative Education Programs in the United States for details of recommended combinations of work/study

#6 (19)

**"All programs of professional education involving human services should seek to incorporate clinical or operational experience in the student's training, but we would also warn that successful clinical training requires careful planning, evaluation, and adaptation to changing needs."**

**#15 (140-141)**

## REACTION OF LABOR TO INNOVATIONS IN COMBINING WORK AND SCHOOL

cf. 2.34 LABOR MARKET RULES AND POLICIES IN RELATION TO  
EDUCATIONAL TRENDS - #15 (180) - c. #316.

4.4

WORK EXPERIENCE RECOMMENDED

cf. 3.25 SUGGESTED WORK EXPERIENCE - #6 (28) - C. #868.



**CF. 3.24 SOURCES OF ADULT LEARNING ACTIVITY - #21 (30) - C. #720.**

STEP-OUT/STEP-IN and PART-TIME STUDY

"Most professional schools and academic departments should be actively involved, along with their institutions, in developing policies that encourage students to stop out between high school and college, or after several years of undergraduate education, or between undergraduate and graduate work, and that assist those students to gain relevant work experience during periods away from school. Of equal importance are policies that facilitate part-time study for the working student."

#15 (141)



NONTRADITIONAL STUDY PROGRAMS - NEEDS OF WOMEN

"The Commission reiterates its support of the development of external degree and other nontraditional study programs, emphasizing the need, that has not in all cases been observed, for high quality in such programs. They are especially important in relation to the special needs of mature married women for continuing education."

cf. 3.24 RELATIONSHIP BETWEEN NONTRADITIONAL STUDIES AND TRADITIONAL ADMISSIONS - #20 (158) - C. #810.

#20 (157-158)

# COURSES ON WOMEN AND INTERDISCIPLINARY WOMEN'S STUDY PROGRAMS

"The movement to introduce courses on women and interdisciplinary women's study programs should be encouraged by institutions of higher education, at least on a transitional basis, but these courses and programs should be organized within existing disciplines and not under separate departments of women's studies."

#20 (80)

INSTRUCTION FOR PRISONERS

"Educational institutions located within accessible range of prisons and having at their disposal well-developed instruction technology will make remote-access instruction and independent learning materials available to prison education programs at minimum costs."

#21 (99)

OFF-CAMPUS INSTRUCTION

4.4

"Colleges and universities are increasingly recognizing that not all instruction must take place on the campus."

#14 (49)

# OFF-CAMPUS PROGRAM OFFERINGS

The Carnegie Commission recommends that "urban campuses, in appropriate instances, offer certain portions of their programs in off-campus facilities—at industrial plants, in business and government offices, and at public libraries and schoolrooms in residential areas."

#14 (50)

- 1166 -

4.4

# REMOVAL OF CAREER TRAINING FROM CAMPUS

Alexander Mood suggests that perhaps the most profound major change in higher education "will be removal of career training from the campus to places where experts are pursuing those careers." These institutions and individuals who are successful in the real world of employment will not only "enlarge their activities to include acceptance and training of apprentices" but also eventually "take some responsibility for employing their trained apprentices themselves or for finding employment opportunities for them elsewhere."

#R37 (31)

OFF-CAMPUS LEARNING

Alexander Mood recommends that "learning situations should be devised which would get students off the campus a large part of the time and into the real world where they would learn from real activities."

#R37 (84)

# EXTERNAL DEGREE PROGRAMS

The Carnegie Commission recommends the "development of new educational opportunities such as in specialized 'open universities' and in other external degree programs." The Commission warns, however, that "These external degree programs are, however, in an experimental period of development, and neither their attractiveness nor their quality has as yet been fully demonstrated."

#21 (5)



SUPPORT FOR EXTERNAL DEGREE SYSTEMS AND OPEN UNIVERSITIES

cf. 3.12, 3.13, 3.14 FUNDS FOR INNOVATIONS- #9 (117) for recommendation of financial support for innovative programs and their evaluation - C. #439.

The Commission emphasizes the importance of continuous evaluation of the external degree programs and open universities and of continuous study of their impact on the needs for new institutions in urban areas by state and local planning bodies.

cf. 1.1 NEED FOR NEW COLLEGES IN URBAN AREAS - #9 (98-104)- C. #90.

**#9 (104)**

OPEN UNIVERSITIES AND OTHER INNOVATIONS

The Carnegie Commission recommends "dispersing opportunities beyond the conventional campus through 'open universities,' external degree programs, video cassettes, and other new institutional devices and new technology."

#9(8)

EXPERIMENTAL COLLEGES

4.4

The Minnesota Metropolitan State College has instituted a complete innovative instructional program:

- " \* It is designed especially for adults in an urban area
- \* It has no campus of its own-the city is its campus
- \* It has no terms...it operates on a continual basis. . .
- \*The degree is earned on the basis of demonstrated competencies rather than on accumulation of credits."

#14 ( 56)

## UNIVERSITY WITHOUT WALLS

The UWW projects seek "to build highly individualized and flexible programs of learning, making use of new and largely untapped resources for teaching and learning; in most, the role of the instructor is redefined as facilitator and coparticipant in the planning and design of the student's learning experience . . . .

Some of the UWW projects continue to translate the learning experience into credits earned while others are attempting to break away from the credit hour formula. Some have adopted the learning contract where a student specifies objectives he hopes to achieve, and how and when he hopes to accomplish them."

#14 (57)

# CRITICISM OF UNIVERSITY WITHOUT WALLS

The Carnegie Commission warns that a weakness of some UWW programs is that ". . . credit is granted for the experience, occasionally retroactively, without any effort to determine the educational results of the experience."

#14 (58)

# LEARNING PAVILIONS

The Carnegie Commission proposes "The creation of 'Learning Pavilions' in densely populated neighborhoods where people can drop in to study and to discuss their studies."

#21 (5)

# LEARNING PAVILIONS

"Learning Pavilions designed and operated to encourage and facilitate independent adult learning will be developed in urban centers and in areas that are remote from institutions of postsecondary education." Such Learning Pavilions might include:

1. central individual study room
2. seminar rooms
3. tutorial rooms
4. counseling offices
5. administrative offices
6. technical support and storage room
7. typing rooms
8. child care center
9. parking lot

(cf. #21 (107-108) for detailed description of facilities)

#21 (97, 107-108)



# LEARNING PAVILIONS

The Carnegie Commission recommends the establishment of learning pavilions which would "provide a home base for adult learners, technological aids for independent study, basic education programs and general education discussion groups."

#14 (50)

PROGRAM PROPOSALS - LEARNING PAVILIONS

4.4

The Commission recommends:

"Creation of experimental learning pavilions attached to community colleges and to comprehensive colleges directed toward the learning needs of adults through the new technology, discussion groups, and other methods. We (Carnegie Commission) suggest that the new program for support of innovative efforts by higher education within HEW be open to such proposals. "

#14 (8)

- 1179 -

4.4

REGIONAL LIBERAL ARTS CENTERS

cf. 7.8 REGIONAL LIBERAL ARTS CENTERS - #1 (45) - c. #1309.

# THE COLLEGE FOR HUMAN SERVICES

The College for Human Services in New York has established a close interaction with relevant service agencies transforming each agencies into "a supplementary educational institution."

#14 (59)

# EXPERIMENTAL UNDERTAKINGS RECOMMENDED IN TEACHER TRAINING

"The Commission also endorses an intensive research and experimental undertaking in the area of education similar to that made possible in medical practice through the National Institutes of Health."

#2 (6)

# NEED FOR INNOVATIONS IN TEACHER TRAINING

"As school systems are effectively desegregated, universities and colleges must concentrate greater resources in the development of new curricular materials and teaching techniques to reach more heterogeneous classroom populations...We need to know much more about what to teach and how to teach it, and about how to train those who do the teaching."

cf. 4.11/4.12/4.13 NEED FOR TRAINING TEACHERS OF EDUCATIONALLY DISADVANTAGED  
#2 (6) - C. #983.

3.12/3.13 STATE AND FEDERAL FUNDS FOR TRAINING TEACHERS OF  
EDUCATIONALLY DISADVANTAGED #2 (6) - C. #438.

#2 (6)

INNOVATIONS IN GRADUATE EDUCATION

cf. 4.12, 4.13 CONSORTIUM ARRANGEMENTS FOR PH.D. PROGRAMS -  
#15 (160) - C. #1031.

4.12, 4.12 REGIONAL DOCTORAL PROGRAMS - #15 (160) - C. #1012.

- 1184 -

4.4

NEW GRADUATE DEGREES

cf. 4.12/4.13 MASTER OF PHILOSOPHY DEGREE, M.E.A., AND M.H.B.-  
#6 (15) - C. #1033.



# INNOVATIVE WAYS OF ATTAINING PH.D. DEGREE

The Carnegie Commission suggests that the Ph.D. degree "should be available subsequently, on application, to holders of a Master of Philosophy or a Doctor of Arts who can show, through minimum course work or through proficiency certificates or examination, the necessary background, and who also publish an important work of original research or who present a satisfactory dissertation."

The Commission supports this position by explaining that "the competitive test of important research published will often be better proof of ability than an internally evaluated dissertation."

#6 (18)

PROFESSIONAL DOCTORATES

The Carnegie Commission recommends that "In much the same way that the D.A. is designed for those going into college teaching, a greater use should be made of professional doctorates for clinical practice in psychology, social work, and other fields in which the emphasis is less on research and more on practice."

#6 (18)

DOCTOR OF ARTS DEGREE

The Carnegie Commission "favor(s) a Doctor of Arts degree for the nonresearch teacher."

cf. 4.12/4.13 DOCTOR OF ARTS DEGREE - #6 (16-18) for a detailed explanation of degree - C. #1018.

#6 (17)

EXPERIMENTATION WITH DOCTOR OF ARTS DEGREES

Cf. 1.0 AVOIDING DUPLICATION OF FUNCTION - #19 (40) for recommendation that doctor of arts become alternative to research oriented Ph.D. Card #17.

HIGH PRIORITY FOR RESEARCH

The Carnegie Commission recommends that "Within the level of research funding which we recommended in Quality and Equality,

(Cf. 3.13 FEDERAL SUPPORT FOR RESEARCH - #1A (25) - C. #498.)

high priority be given to both basic and applied social science research."

#14 (116)

cf. - 1.3 NATIONAL EFFECTS OF RESEARCH - #12 (73) - C. #105.

## RESEARCH AND HIGHER EDUCATION

"We (Carnegie Commission) believe that the marriage of higher education and research as it has developed in this country has produced, in general, demonstrably superior results. . . .the use of reasonable portions of university faculty members' time on research should be regarded as desirable."

**#12 (73)**

**The Carnegie Commission recommends that "All secret research should be eliminated from all campuses as a matter of national policy, except under quite unusual circumstances."**

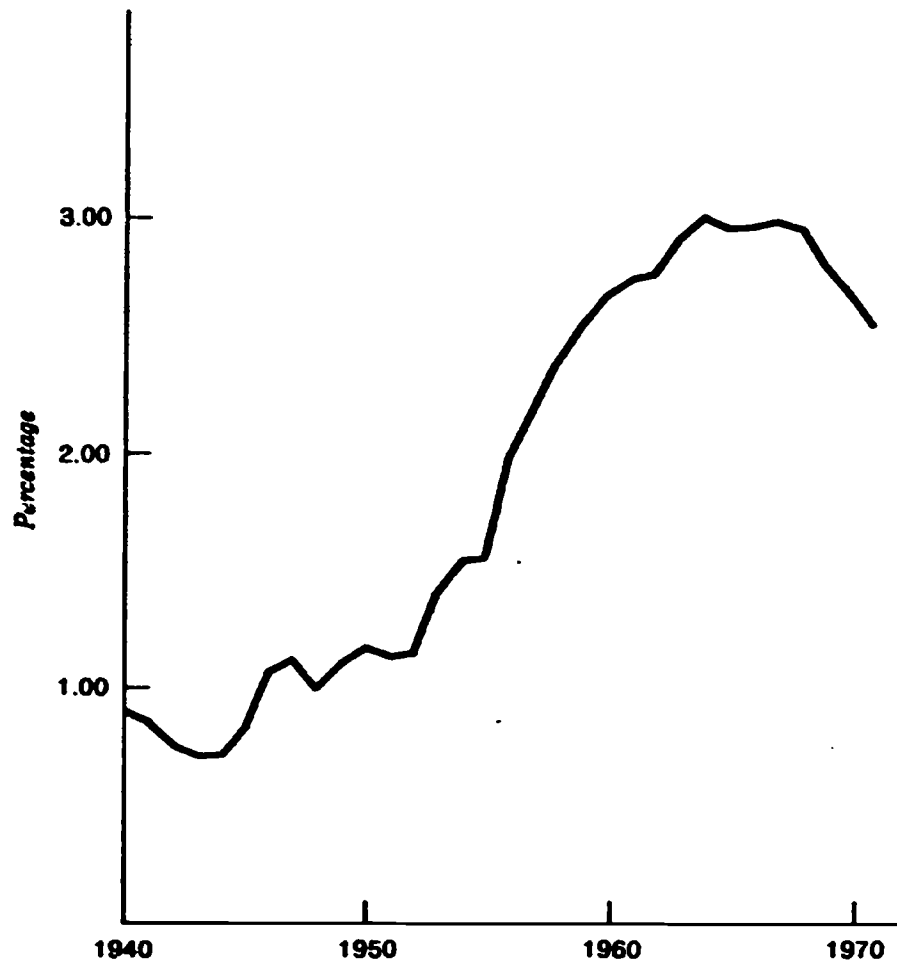
**#17 (72)**



# RESEARCH AND DEVELOPMENT EXPENDITURES (1940 -1971)

5.0

CHART 6 Research and development expenditures as percentage of gross national product in current dollars, 1940-1971



SOURCES: Folk (20, pp. 33-34); National Science Foundation (21, p. 25); and Economic Report of the President (22, p. 195).

NOTE: The figure for research and development expenditures for 1970 is preliminary; for 1971 it is estimated.

GOVERNMENT SUPPORT OF RESEARCH

Cf. 3.13 STABILIZATION OF GOVERNMENT SUPPORT - #15 (142) - C. #464.



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5.0

FEDERAL FUNDING FOR RESEARCH

cf. 3.13 FEDERAL SUPPORT FOR RESEARCH - #1A (25) - C. #498 - for  
recommendation concerning flow.

# FEDERAL FUNDS FOR RESEARCH

The Carnegie Commission recommends that "Federal research funds expended within higher education should be maintained steadily at a level of about 0.3 percent of the gross national product."

The Commission further recommends that "Funds for basic research should be concentrated on highly productive centers and individuals, and money for applied research should be subject to periodic reassignment to reflect the decline of old and the rise of new potentialities."

#17 (27)

FEDERAL RESPONSIBILITY FOR SCIENTIFIC RESEARCH

Cf. 2.33 FEDERAL RESPONSIBILITY FOR HIGHER EDUCATION - #5 (12)-  
C. #306.

ORGANIZED RESEARCH - CLARIFICATION OF TERM

The Carnegie Commission makes a point of clarification in distinguishing ORGANIZED BASIC RESEARCH (through special projects, institutes, and laboratories) from APPLIED RESEARCH (related to specific application to problems) and INDIVIDUAL SCHOLARSHIP.

#13 (48)

ORGANIZED RESEARCH AND GRADUATE CURRICULUM

The Carnegie Commission recommends that Organized Research (as distinct from applied research and individual scholarship - cf. 5.0 ORGANIZED RESEARCH -CLARIFICATION OF TERM - C. #1199), which is almost universally tied to the training of Ph.D.'s, be "concentrated in a limited number of institutions."

#13 (47-48)



5.0

# BENEFITS FROM RESEARCH

Alexander Mood maintains that "The direct benefits to society come from the research role of higher education rather than the educational role."

#R37 (77)

USE OF RESEARCH FA      IES BY COMMUNITY

cf. 1.1 CONTRIBUTION OF INSTITUTIONS IN ELEMENATING SEGREGATION - #2 (5-6)  
for role of research facilities in community desegregation, Card #77.

## URBAN RESEARCH CENTERS

The Center for Planning and Development Research at the University of California, Berkeley, "efforts have been made to develop a mode of interaction between the university and the city which will satisfy the educational needs of those involved as well as providing research support for the city."

#14 (66)



- 1205 -

5.1/5.2

## URBAN OBSERVATORIES

The Carnegie Commission observes that the network of Urban Observatories "has attempted to provide urban-oriented research."

#14 (66)

K98 6718

LITTON A95 - MCDEE



NEED FOR EVALUATION OF INNOVATIONS

cf. 3.12, 3.13, 3.14 FUNDS FOR INNOVATIONS - #9 (117) for recommendation of financial support for the evaluation of innovative programs as they develop - C. #439.

# INTENSIVE RESEARCH RECOMMENDED IN TEACHER TRAINING

cf. 4.4 EXPERIMENTAL UNDERTAKINGS RECOMMENDED IN TEACHER TRAINING #2 (6) -  
C. #1181-for Commission endorsement of research in education



# INSTITUTIONAL RESEARCH GRANTS

The Carnegie Commission recommends that "the level of federal funding for university and college research be increased over the next several years but with the annual rate of increase declining from 15 percent in 1970-71 to 10 percent in 1976-77. This rate of increase reflects expanding doctoral enrollments, use of more costly technology, and the need for expansion into new fields of research. \*

The Commission further recommends that a grant amounting to 10 percent of the total research grants received annually by an institution be made to that institution to be used at its discretion. The sum required for this purpose is to be included within the percentages noted immediately above."

\* In the Revised Recommendations, the Commission recommends "that federal grants for university-based research (not including federal contract research centers), regardless of changing priorities for defense and space research, be increased annually (using grants in 1967-68 as a base) at a rate equal to the five-year moving average annual rate of growth in the gross national product."

#1A (26)

#1 (40)

RESEARCH EXPENDITURES

5.3

cf. 9.1 INSTRUCTIONAL AND DEPARTMENTAL RESEARCH EXPENDITURES  
#12 (188), (166), (171) - C.#1483, #1484, #1485.

- 1210 -

FUTURE TRENDS IN ORGANIZED RESEARCH - LOCATION

Alexander Mood anticipates that "since research activities are little related to teaching undergraduates and will be even less related as we see them in the future, it is likely that research will become separated from campuses and be carried out at research institutes."

#R37 (35)

STATE SUPPORT OF PUBLIC SERVICE FUNCTION

The Carnegie Commission recommends that "States recognize the public-service demands made on public institutions and provide funds for such services."

#14 (117)

OFF-CAMPUS INSTRUCTION - USE OF TECHNOLOGY

Cf. 7.3/7.4 INSTRUCTION AND TECHNOLOGY - PREDICTIONS - #11 (1)  
 C. #1261 - for predicted percentage of instruction carried on  
 through informational technology.

6.0  
IMPLICATIONS OF NEW INFORMATIONAL TECHNOLOGY ON ADULT EDUCATION

The Carnegie Commission predicts that, as the result of new informational technology, "Off-campus instruction of adults may become both the most rapidly expanding and the most rapidly changing segment of postsecondary education."

#11 (4)

6.0

FINANCIAL PRUDENCE OF USING TECHNOLOGY IN ADULT EDUCATION

Cf. 7.3/7.4 CAPABILITIES OF TECHNOLOGY - #11 (3-4) - c. # 1258.

6.1

URBAN AFFAIRS CURRICULA

cf. 4.1 NEED FOR NEW CURRICULAR PROGRAMS AND NEW CONCEPTS IN  
URBAN AFFAIRS - #1 (45) - C. #925.



CONTINUING EDUCATION AND THE PROFESSIONAL SCHOOLS

Cf. 4.1 PROFESSIONAL SCHOOLS AND CONTINUING EDUCATION - #15 (139) -  
C. #935.

CONTINUING EDUCATION CENTER FOR WOMEN

Cf. 4.3 NEED FOR SEPARATE CONTINUING EDUCATION CENTER FOR WOMEN? - #20  
(158) - C. #1061.

PUBLIC SERVICE - RENEWED EMPHASIS

6.2

"We (CARNEGIE COMMISSION) believe, however, that higher education must respond to the problems of the city not only through its formal educational programs and research activities but also through renewed emphasis on public service."

#14 (70)

COMMUNITY SERVICE ACTIVITIES

The Carnegie Commission recommends that "institutions of higher education undertake those community service activities which:

- \* Revitalize its educational functions and constitute an integral part of its educational program
- \* Are within the institutional capacity both in terms of personnel and resources
- \* Are not duplicative of the services of other urban institutions "

#14 (77)

The Carnegie commission recommends that "efforts be made by colleges, foundation, state governments, and the federal government to provide a variety of opportunities to students for community service, and that, where academic-level work has also been performed...credit be given for such work and also for other academic work of an apprenticeship nature."

**# 13 (59)**

COMMUNITY SERVICE DIRECTION OF ADMINISTRATIVE EFFORTS

Cf. 3.21 ADMINISTRATIVE REFLECTION OF URBAN-IMPACT - #14 (91-92)  
C. # 568.

INSTITUTIONAL SERVICE TO THE COMMUNITY

Cf. 1.1 - C. #35 - 73.

FACULTY SERVICE TO THE COMMUNITY

cf. 3.22 FACULTY SERVICE TO THE COMMUNITY - #14 (73)- c. #622.



STUDENT SERVICE FOR THE COMMUNITY

6.2

"The ideal student service (to the community) activity would seem to be a service which was also treated as a learning experience by the university or college."

Cf. 9.6 USING COLLEGE STUDENTS AS COUNSELORS IN ELEMENTARY AND SECONDARY SCHOOLS - #19 (49) - C. #1500.

#14 (72)

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6.2

URBAN CORPS - STUDENT SERVICE TO COMMUNITY

Cf. 8.4 FINANCIAL AID+EXPERIENCE IN CITY GOVERNMENT = URBAN  
CORPS - #14 (72) - C. #1434.

COOPERATIVE CULTURAL EVENTS

The Carnegie Commission recommends that "the National Foundation on the Arts and Humanities provide grants for university-based cultural activities available to both the campus and its neighbors and for cooperative endeavors involving higher education and city museums and performing arts centers."

#14 (89)

- 1228 -

6.2

FEDERAL FUNDING FOR URBAN ACTIVITIES

Cf. 3.13 URBAN-GRANT PROGRAM - #14 (101) - C. #520.

11000 A05 - MC001

INSTITUTIONAL URBAN POLICY - A NECESSITY

The Carnegie Commission recommends that "colleges and universities develop overall policies concerning appropriate urban activities for their institutions to avoid response to new proposals on an ad-hoc basis without reference to consistency with the educational mission of the institution."

#14 (94)

INSTITUTIONAL COMMUNITY POLICIES

Cf. 1.1 INSTITUTIONAL BENEFIT TO SURROUNDING AREAS - #14 (88) -  
C. #42.

- 1231 -

TOTAL POSTSECONDARY AGE GROUP

6.4

Cf.1.2

TOTAL POSTSECONDARY AGE GROUP - #17 (36-37)-  
C. #93.

## BASIC INSTRUCTIONAL SUPPORT TECHNOLOGIES

The Carnegie Commission notes that of the nine basic technologies "Some version of every one...is already in use in at least one college or university in the country." The nine technologies include:

- . Routine audiovisual techniques - "The classroom use of films, taped lectures shown on closed-circuit television or in listening laboratories, etc."
- . Routine computer-assisted instruction - Computer is used in instruction for instruction itself or for drill exercises
- . Computer simulation- Computer is used in exercises involving student investigation of "pseudo-reality."
- . Advanced computer-assisted instruction - Computer is used in individualized support of student exploration of knowledge
- . Computer-managed instruction - Measure of the student's performance is monitored and analyzed by computer which prescribes next step.
- . Remote classroom broadcasting and response- Use of remote t.v. broadcasting from central location to dispersed classrooms.
- . Student-initiated access to audiovisual recordings- technological environment sufficiently inexpensive and easy to use to allow student-initiated access to recorded lectures or demonstration material."
- . Computer-aided course design - use of computers to record and analyze student responses to instructional packets in order to provide information for designing improvements.



# INSTRUCTIONAL MATERIALS

The Carnegie Commission recommends that "Since a grossly inadequate supply of good quality instructional materials now exists, a major thrust of financial support and effort on behalf of instructional technology for the next decade should be toward the development and utilization of outstanding instructional programs and materials. The academic disciplines should follow the examples of physics and mathematics in playing a significant role in such efforts."

#11 (48)

REFORMS IN ACADEMIC SUPPORT SERVICES

cf. 1.4 STUDENT-ORIENTED REFORMS - #13 (4) - C. #150.

LIBRARIES

The Carnegie Commission recommends that "Libraries should be converted into 'learning centers.'"

#22 (28)

LIBRARY - CENTER OF INSTRUCTIONAL EFFORTS

The Carnegie Commission emphasizes the changing attitude toward libraries by noting the contrast between previous inadequate utilization of resources of campus libraries in the instructional efforts of colleges and universities and the "physical location of the library at the core of the main instructional facility on several new, small campuses."

The Commission specifically recommends that "the library, by whatever name, should occupy a central role in the instructional resources of educational institutions. Its personnel should be available not only for guidance to materials held in the collections of the campus, but also should, when qualified by subject-matter expertise, be utilized as instructors. We also believe that nonprint information, illustrations, and instructional software components should be maintained as part of a unified informational-instructional resource that is cataloged and stored in ways that facilitate convenient retrieval as needed by students and faculty members."

#11 (33-34)

SHARING LIBRARY FACILITIES

cf. 7.8 COOPERATIVE LIBERAL ARTS CENTERS - #9 (94) - C. #1310.

- 1238 -

7.1

REGIONAL LIBRARY NETWORKS

Cf. 7.8 REGIONAL LIBRARY NETWORKS - #11 (34) - C. #1308.

LIBRARIES AND THE NEW TECHNOLOGY

The Commission recommends that "The introduction of new technologies to help libraries continue to improve their services to increasing numbers of users should be given first priority in the efforts of colleges and universities, government agencies, and other agencies seeking to achieve more rapid progress in the development of instructional technology."

#11 (51)

IMPLICATIONS OF NEW INFORMATIONAL TECHNOLOGY ON LIBRARIES

The Carnegie Commission predicts that, as the result of new informational technology, "the library, if it becomes the center for the storage and retrieval of knowledge in whatever form, will become a more dominant feature of the campus..."

The Commission also predicts additional professions of multimedia technologists.

#11 (4)



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7.1

STORING PERIODICALS - PREDICTIONS - STORING BOOKS

The Carnegie Commission notes that in a recent survey librarians indicated that "More than 50% of library's new periodicals will be stored on microfilm, microfiche, etc." by 1989. They also expect that by 2019, "More than 50% of library's new books will be stored on microfilm, microfiche, etc."

#11 (30)

LIBRARY USES FOR THE COMPUTER

The Commission refers to Levien's study in which he identifies four applications of the computer to library operations: "clerical applications, circulation automation, cataloging, and indexing and retrieval."

#11 (31)

FINANCIAL PRUDENCE OF USING TECHNOLOGY IN LIBRARIES

cf. 7.3/7.4 CAPABILITIES OF TECHNOLOGY - #11 (3-4) -C. #1258.

LIBRARY EXPENSES

cf. 9.1 LIBRARY EXPENSES - #12 (169) for specific details,  
also #12 (174) - Cards # 1480 and #1481.

- 1245 -

7.1

LIBRARIES - FUNDING

The Carnegie Commission recommends that "The library should become a more active participant in the instructional process with an added proportion of funds, perhaps as much as a doubling."

#13 (50)

Cf. 3.13 FEDERAL AID FOR SPECIAL PROGRAMS - #1 (41) - C. #510.

# AUDIO-VISUAL SERVICES - SOME EXAMPLES

Some examples of audio-visual services include:

1. multimedia classrooms
2. self-instruction units
  - a. Language Laboratories
  - b. Audiolisting Centers
  - c. Individual Learning Laboratories
  - d. Remote-access Units
3. instructional use of the radio
4. instructional television
  - a. Broadcast Television
  - b. Closed-circuit Television
  - c. Instructional Television Fixed Service
  - d. Cable Television
  - e. Videotape
  - f. Videocassettes

#11 (16-22)

# CHARACTERISTICS AND COSTS OF VARIOUS INSTRUCTIONAL MEDIA (1969)

Instructional medium	Can user carry it around?	Can user use it individually at school or college?	Can user use it individually at home?	Can user determine when it is to be used?	Can user control rate of information flow and repeat if not understood?	Can user interact actively with input?	Is individualized "branching" possible?	Senses used	Can signals be sent on electronic network?	Costs (dollar per hour of use)
1. Class lecture	No	No	No	No	Rarely	No	No	Vision and Audition	No	0.15-3
2. Small discussion group	No	No	No	No	Sometimes	Yes	Rarely	Vision and Audition	No	0.50-15
3. Books and journals	Yes	Yes	Yes	Yes, unless another user has it	Yes	No	No	Vision	No	0.05-10
4. Printed programmed instruction	Yes	Yes	Yes	Yes	Yes	No	Yes	Vision	No	0.05-10
5. Computerized programmed instruction	No	Yes	Rarely	Yes, unless number of terminals is limited	Yes	Yes	Yes	Vision and Audition	Yes	2-25
6. On-line computer aids to learning and scholarship	No	Yes	Rarely	Yes, unless number of terminals is limited	Yes	Yes	Yes	Vision	Yes	5-100
7. Closed-circuit lectures on public address system	No	No	No	No	No	No	No	Audition	Yes	0.02-2
8. Educational radio	No	Yes	Yes	No	No	No	No	Audition	Yes	0.01-1
9. Dual-access audio tape recordings	No	Yes	Rarely	Yes	In some systems	Rarely	No	Audition	Yes	0.01-2
10. Broadcast live instructional TV	No	Yes	Sometimes	No	No	No*	No	Vision and Audition	Yes	0.02-10
11. Closed-circuit live instructional TV	No	Yes	No	No	No	No*	No	Vision and Audition	Yes	0.03-3
12. Broadcast tape-recorded instructional TV	No	Yes	Sometimes	No	No*	No*	No	Vision and Audition	Yes	0.01-5
13. Closed-circuit tape-recorded instructional TV	No	Yes	No	No	No*	No*	No	Vision and Audition	Yes	0.03-2
14. Dual-access instructional TV	No	Yes	No	Yes, unless number of terminals is limited	Sometimes	Rarely	No	Vision and Audition	Yes	0.50-5
15. Facsimile transmission of documents by electronic circuits	Terminals can be portable and attached to any telephone	Yes	Possibly	Yes, during hours sensor is able to transmit to user	No	No	No	Vision	Yes	2-15
16. Automated storage and retrieval of a return and graphic materials	No	Yes	Rarely	Yes	Yes	Sometimes	Yes	Vision	Yes	2-100
17. Other standard audio-visual aids	Usually	Yes	Often	Yes	Yes	Sometimes	Rarely	Vision and Audition	No	0.05-8

most technological developments may remove these limitations in the future

NACE Miller, 1971, pp. 1012-1013

#11 (98-101)

ERIC

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# TESTS FOR USING TECHNOLOGY

The following two tests are suggested by the Carnegie Commission to determine whether any technology (including conventional modes) should be used:

"The teaching-learning task to be performed should be essential to the course of instruction to which it is applied.

The task to be performed could not be performed as well-if at all-for the students served without the technology contemplated."

#11 (11)

Subject area	Number of institutions reporting use		
	Lower division	Upper division	Graduate
<i>Agriculture</i>	9	2	2
<i>Business administration</i>	36	23	7
<i>Economics</i>	28	8	1
<i>Education</i>	73	129	78
<i>Engineering</i>	33	32	18
<i>English</i>	71	36	5
<i>Fine arts</i>	63	41	13
<i>Foreign language</i>	34	17	5
<i>History</i>	43	20	2
<i>Humanities</i>	47	22	9
<i>Health/physical education</i>	62	32	5
<i>Life sciences</i>	83	36	14
<i>Mathematics</i>	44	14	7
<i>Military training</i>	11	12	3
<i>Political science</i>	29	16	4
<i>Physical science</i>	71	30	7
<i>Social science</i>	95	49	24
<i>Speech and drama</i>	123	96	28
<i>Technical and vocational</i>	38	20	11
<i>Professional</i>			
<i>Dental</i>			47
<i>Law</i>		1	6
<i>Medical</i>			63
<i>Nursing</i>	1	1	58
<i>Theology</i>			14

SOURCE: Department of Audiovisual Instruction, National Education Association, *A Survey of Institutional Closed Circuit Television*, 1967, pp. 34-35.

USE OF CLOSED CIRCUIT TELEVISION IN HIGHER ED. BY SUBJECT AREA

7.3

1250

AUDIO-VISUAL VOCATIONAL INSTRUCTION

"Educational institutions that have well-developed instructional technology will avail businesses and industry of opportunities to tie plant-site classrooms to televised instruction originating on the campus, and will make available audio-videotape instruction or computer-assisted instruction on subject relevant to business and industry training programs."

#21 (91)

PRODUCTION OF VISUAL MATERIAL

cf. 3.22 ROYALTY ARRANGEMENTS FOR FACULTY-DEVELOPED VISUAL MATERIAL - #R37 (90) for Mood's suggestion that faculty be rewarded for visual material production. Card #654.

TECHNOLOGY AND INSTRUCTION

The Carnegie Commission insists that "technology should be the servant and not the master of instruction. It should not be adopted merely because it exists, or because an institution fears that it will be left behind the parade of progress without it."

The Commission continues by warning against equating technology with saturation and advises the discriminate use of instructional techniques.

#11 (11)

7.3/7.4

# ADVANCEMENT OF TECHNOLOGY

The Carnegie Commission recommends that "Because expanding technology will extend higher learning to large numbers of people who have been unable to take advantage of it in the past, because it will provide instruction in forms that will be more effective than conventional instruction for some learners in some subjects, because it will be more effective for all learners and many teachers under many circumstances, and because it will significantly reduce costs of higher education in the long run, its early advancement should be encouraged by the adequate commitment of colleges and universities to its utilization and development and by adequate support from governmental and other agencies concerned with the advancement of higher learning."

#11 (46)

7.3/7.4

ADVANCEMENT OF INSTRUCTIONAL TECHNOLOGY

The Commission recommends that "Institutions of higher education should contribute to the advancement of instructional technology not only by giving favorable consideration to expanding its use, whenever such use is appropriate, but also by placing responsibility for its introduction and utilization at the highest possible level of academic administration."

#11 (51)

1980:

The Commission recommends that the following goals be achieved by 7.3/7.4

GOALS FOR INSTRUCTIONAL TECHNOLOGY - 1980

"Collections of other learning will have accepted a broad definition of instructional technology such as: The efficient and effective use of the conditions in which learning takes place and the selection of the appropriate and effective organization of resources, physical infra-structures, skills, and methods."

"State colleges and universities will have devised adequate infrastructure and standards for staff and procedures for the effective and appropriate utilization of instructional technology."

"Colleges and universities who are responsible for training prospective teachers for all schools and colleges will have incorporated instruction in the design of courses and in the effective utilization of instructional technology (as broadly defined in this report) in their curricula."

"A concerted federal government effort, utilizing the resources of the nation's chief agencies and agencies as well as those of the state and local agencies, will have been made to develop and produce courses of instruction of good quality for presentation with advanced electronic media."

"At least three cooperative learning-technology centers, containing the instructional technology capabilities of state, regional, and local agencies, will have been developed and operated, providing instructional services through instruction, consultation, and computing networks will be in operation."

"The level of federal support for development and utilization of instructional technologies should have reached a 21 percent of the total national expenditure for higher education."

"Governmental higher education programs should be available to meet a wide range of needs, open universities, the provision of continuing education and, universities, colleges, or cooperative learning-technology centers."

"State institutions will have a duplication of educational materials and have been reviewed by a committee of state and local agencies to determine the effectiveness of instructional technology."

"The effectiveness of equipment for use in teaching and learning will have been demonstrated and have been a factor in the development of instructional technology and the provision of services for use on a wide variety of media and systems."

"The use of instructional technology in the development of instructional materials and procedures for education will have been demonstrated and demonstrated in the operation."

"The use of instructional technology in the development of instructional materials and procedures for education will have been demonstrated and demonstrated in the operation."

#11 (89-93)



7.3/7.4

# CAPABILITIES OF TECHNOLOGY

The Carnegie Commission recommends that "It will be financially prudent to concentrate early investments\*in areas with the greatest capability for wide use: (a) libraries, (b) adult education, (c) primary and secondary education, and (d) introductory courses in higher education where basic skills are involved, like mathematics and language."

\* financial investments in new informational technology

#11 (3-4)

7.3/7.4

# GOALS FOR INSTRUCTIONAL TECHNOLOGY - 1990

The Commission recommends that the following goals be achieved by 1990:

1. "Most colleges in the country will have introduced sufficient technologies of all available and appropriate kinds to realize the following benefits:
  - (a) Savings of...at least 15 percent of a professor's time per course.
  - (b) Provision of alternative modes of instruction for existing courses...
  - (c) Provision of logistical flexibility..."
2. "Six of the seven proposed cooperative learning-technology centers recommended in Section 6 will be in operation."

#11 (93)

1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1  
33 32 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1

- 1260 -

7.3/7.4

## GOALS FOR INSTRUCTIONAL TECHNOLOGY - 2000

The Commission recommends that the following goals be achieved by 2000:

1. "All instructional technology identifiable in 1972 will be in general use on college and university campuses."
2. "The availability of education through independent study within and without traditional institutions will have become widespread through applications of the expanding technology."

#11 (93)

# INSTRUCTION AND TECHNOLOGY - PREDICTIONS

The Carnegie Commission predicts that "by the year 2000 it now appears that a significant proportion of instruction in higher education on campus may be carried on through informational technology—perhaps in a range of 10 to 20 percent. It certainly will penetrate much further than this into off-campus instruction at levels beyond the secondary school—in fact it may become dominant there at a level of 80 percent or more."

#11 (1)

7.3/7.4

EFFECTS OF NEW TECHNOLOGY - UNIVERSITY PRESS

cf. 10.1 IMPLICATIONS OF NEW TECHNOLOGY ON UNIVERSITY PRESS - #11 (5) - C.  
#504.

# CENTRALIZING EFFECT OF NEW TECHNOLOGY

The Carnegie Commission predicts that "The new technology will have a centralizing effect" because:

- "(a) On campus there will need to be some agency (library, etc.) that will provide equipment and materials, assist in the preparation of programs, and aid in the presentation of programs.
- (b) Among campuses, there will be a need for cooperation on a regional or even national basis."

CF. 3.24 IMPLICATIONS OF NEW TECHNOLOGY ON ENROLLMENTS - C. #776

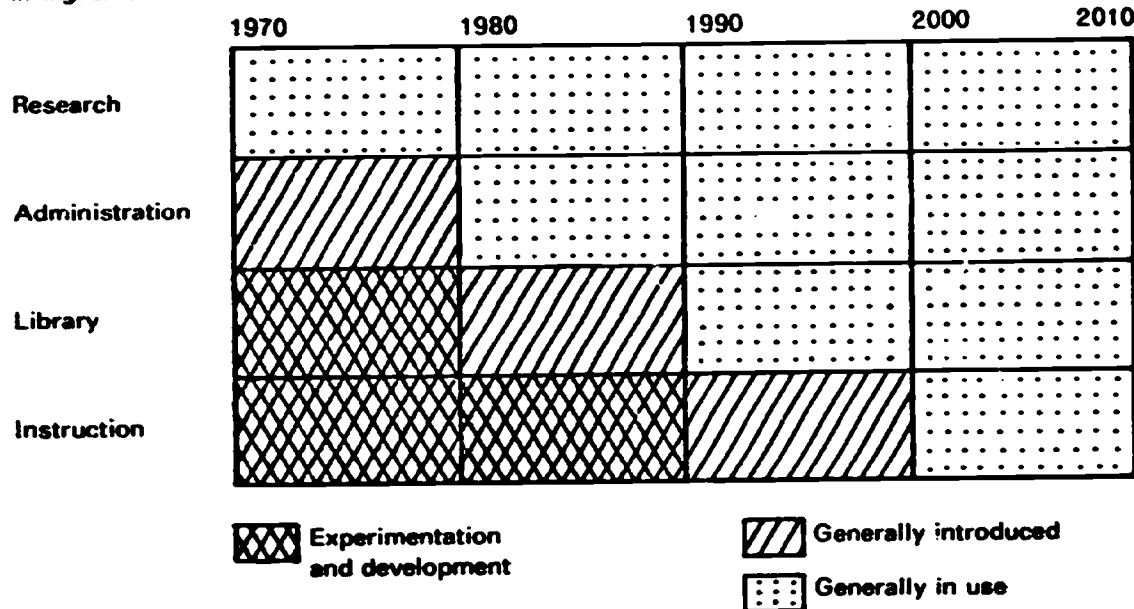
4.11/ 4.12/4.13	"	"	"	"	TEACHER TRAINING- #978
6.0	"	"	"	"	ADULT EDUCATION-#1214
7.1	"	"	"	"	LIBRARIES -#1240
8.3	"	"	"	"	ADVISING - #1327
10.1	"	"	"	"	UNIVERSITY PRESS- C. #1504

#11 (4-5)

#11 (5)

# ESTIMATED USE OF ELECTRONIC TECHNOLOGY

**FIGURE 1** *Estimated use of electronic technology (computers, "cable" television, videocassettes) in higher education*



SOURCE: Staff of the Carnegie Commission on Higher Education.

## TECHNOLOGICAL AID TO DISPERSING EDUCATIONAL PROGRAMS

1071



## CAUSES FOR NON-AVAILABILITY OF INSTRUCTIONAL TECHNOLOGY SOFTWARE<sup>7.3/7.4</sup>

The Carnegie Commission lists six causes for the non-availability of instructional "software." These causes include:

1. The refusal of the academic community to uniformly accept instructional technology.
2. The lack of reward for faculty interest in designing learning materials.
3. The lack of compatibility of components in mediaware models.
4. The continuing debate relative to the benefits of materials produced for local campus use and those produced for national distribution.
5. Need for combination of interest and expertise in subject matter, media development, and learning theory in faculty members designing high-quality instructional materials.
6. Disenchantment experienced by faculty over effectiveness of technology in comparison with traditional methods.

#11 (13)

7.3/7.4

## BENEFITS OF INSTRUCTIONAL TECHNOLOGY

The Carnegie Commission expresses confidence that "the expanding instructional technology will improve learning, make learning and teaching more challenging to students and teachers alike, and yield cost savings as it becomes more widely used and reduces the need for live instruction."

The Commission further recommends instructional technology, declaring that "It may, indeed, provide the best means available to us for solving the difficult problem of continuing to educate growing numbers of students of all ages within a budget the American people can afford."

#11 ( 86)

7.3/7.4

## ADVANTAGES OF TECHNOLOGY FOR FACULTY

The Carnegie Commission notes that "the new technology can lessen routine instructional responsibilities in the more elementary work in languages, mathematics, the sciences, accounting, and other fields."

The Commission observes, however, that "it (technology) may, however, reduce the need for both teaching assistants and for additional new faculty members at a time when requirements for them are lessening for other reasons."

Although the Commission does not expect the new technology to affect the employment of existing faculty, it does recommend "more training in the new instructional techniques" for faculty members of the future.

#11 (3)

FACULTY INCENTIVES FOR INSTRUCTIONAL TECHNOLOGY ADVANCES

Cf. 3.22 Faculty Incentives for Instructional Advances - #11  
(66) - C. #651.

7.3/7.4

# ADVANTAGES OF TECHNOLOGY FOR STUDENTS

The Carnegie Commission notes that for students the expanding technology has two major advantages:

- " it increases the opportunities for independent study, and
- it provides students with a richer variety of courses and methods of instruction."

#11 (2)

7.3/7.

# NEED FOR CONTINUED EVALUATION OF TECHNOLOGY

The Carnegie Commission indicates that "Constant evaluation of the results among alternative approaches and of total costs and total consequences (of instructional technology) will be essential."

#11 (7)

7.3/7.4

# LEARNING-TECHNOLOGY CENTERS

MAP 1 Suggested configuration of districts that might be served by cooperative learning-technology centers, with indication of numbers of undergraduate students (1968) in each



NOTE: Enrollment data from Carnegie Commission on Higher Education, 1971, pp. 134-135.

COOPERATIVE LEARNING-TECHNOLOGY CENTERS

The Carnegie Commission recommends that "By 1992, at least seven cooperative learning-technology centers, voluntarily organized on a regional basis by participating higher educational institutions and systems should be established for the purpose of sharing costs and facilities for the accelerated development and utilization of instructional technology in higher education."

#11 (54)



7.3/7.4

COMPONENTS OF COOPERATIVE LEARNING-TECHNOLOGY CENTERS

The Carnegie Commission envisions each cooperative learning-technology center as having four components:

Production unit - responsible for design, planning, and production of instructional units

Resource unit - library and information system for region

Distribution unit - actively engage in instructional activity through one or more extramural educational systems directly and indirectly

Computing unit - provide core storage for computer programs used by region

#11 (56-57)

- 1274 -

7.3/7.4

FEDERAL ASSISTANCE FOR LEARNING-TECHNOLOGY CENTERS

Cf. 3.13 FEDERAL FUNDING FOR LEARNING-TECHNOLOGY CENTERS - #11  
(58) - C. #494.

7.3/7.4

FEDERAL ASSISTANCE FOR INSTRUCTIONAL TECHNOLOGY

The Carnegie Commission recommends that "the federal government should continue to provide a major share of expenditures required for research and development in instructional technology and for introduction of new technologies more extensively into higher education at least until the end of the century. The total level of federal government support for these purposes should be at least \$100 million in 1973 and should rise to 1 percent of the total expenditures of the nation on higher education by 1980."

#11 (62)

QUALIFYING FOR FEDERAL FUNDING - LEARNING-TECHNOLOGY CENTERS

The Carnegie Commission recommends that Learning-technology centers "should provide evidence of a plan to serve at least 200,000 students and show efforts to organize one or more regional library systems, one or more operating computer time-sharing programs, and one or more extramural educational systems.

#11 (58)

- 1277 -

7.3/7.4

IMPORTANCE OF TRAINING INSTRUCTIONAL TECHNOLOGISTS

Cf. 4.12/4.13/4.11 **TRAINING PROSPECTIVE TEACHERS - #11 (68)-  
C. #982.**

- 1278 -

7.3/7.4

FEDERAL FUNDING OF NEW TECHNOLOGY

Cf. 3.13 FEDERAL FUNDS FOR INSTRUCTIONAL TECHNOLOGY - #11 (6) -  
C. #494.

7.3/7.4

ADVANTAGES OF TECHNOLOGY FOR FINANCING

The Carnegie Commission observes that "the new informational technology will eventually reduce instructional costs below levels possible using conventional methods alone..." In the short run, however, the new technology will only increase costs.

Cf. 7.3/7.4 CAPABILITIES OF TECHNOLOGY - #11 (3-4) - C. #1258 -  
for Commission suggestion of areas for financial investment  
in new informational technology

#11 (3)

7.3/7.4

# NEW TECHNOLOGY - PROGRESS

The Carnegie Commission observes that "the new technology (applied to instruction),...as compared with the hopes of its early supporters, indicates that it is (a) coming along more slowly, (b) costing more money, and (c) adding to rather than replacing older approaches..."

#11 (1)



## INSTRUCTIONAL USES OF COMPUTER

In a study for the Carnegie Commission directed by Roger E. Levien, George A. Comstock surveyed the use of computers for instruction in California. The five categories of computer use which were determined included:

1. Data processing and computer science - "The teaching of computer skills in relative isolation from other disciplines"

2. Student problem solving and research - "Teaching about the computer as a tool for use in some field outside computer science."

3. Tutorial - "Use of the computer as a medium to present instruction directly to the student."

4. Simulations, demonstrations, and gaming - "Use of the computer to simulate, in part, social and physical phenomena"

5. Teacher's aid - "Use of the computer to assist the teacher in managing instruction, including recording of grades, attendance, and assignments, as well as the more sophisticated actual guidance of instruction based on student performance."

#11 (22-23)

7.4

# COMPUTERS AS INSTRUCTIONAL DEVICES

The Carnegie Commission affirms its belief that "computers potentially have an important role to play as instructional devices."

The Commission emphasizes that the computer is "but one of the growing array of technologies," but it "holds great promise for fully integrating other available media for instructional use, and that role cannot be ignored..."

#11 (25)

COMPUTER AS CONTROL UNIT FOR INSTRUCTIONAL SYSTEMS

Cf. 7.8 COMPUTER AS CONTROL UNIT FOR INSTRUCTIONAL SYSTEMS -  
#11 (24)- C. #1304.

COMPUTER-ASSISTED INSTRUCTION

cf. 7.3 AUDIO-VISUAL VOCATIONAL INSTRUCTION - #21 (91) for recommendation which includes reference to computer-assisted instruction on subjects relevant to business and industry training programs to be offered by educational institutions for business and industry.  
C. # 1251.

# DISTRIBUTION OF STUDENTS AND EXPENDITURES FOR INSTRUCTIONAL COMPUTER USE

7.4

TABLE 3 *Distribution of students and expenditures for instructional computer use, by academic field, 1966-67 (percent of total students and expenditures in each field)\**

Field	Level of instruction					
	Undergraduates		Graduates		Total	
	Students	Expenditures	Students	Expenditures	Students	Expenditures
Engineering	35.2	23.9	33.0	25.7	34.9	24.5
Computer science	23.2	28.5	16.3	14.6	22.2	24.0
Business/commerce	26.0	20.3	2.6	13.2	22.6	18.0
Mathematical subjects	2.2	15.3	12.8	7.0	3.7	12.6
Physical sciences	4.8	3.7	8.2	16.3	5.3	7.8
Social sciences	2.6	2.2	7.4	4.8	3.3	3.0
Psychology	1.2	1.8	3.2	4.2	1.5	2.6
Education	0.9	1.3	6.8	3.9	1.8	2.2
Agriculture/forestry	1.3	0.9	3.6	3.8	1.7	1.8
Biological sciences	0.8	0.7	1.3	2.8	0.9	1.4
Health professions	0.1	0.2	3.1	2.4	0.6	1.0
Humanities/folklore	0.4	0.5	0.5	0.5	0.4	0.5
Military science	0.1	0.3			0.1	0.2
Architecture/city planning	0.3	0.1	0.6	0.3	0.4	0.2
English/journalism	0.1	0.1	0.4	0.1	0.1	0.1
Law	0	0	0.01	0.2	0	0.1
Home economics	0.6	0	0.03	0.1	0.5	0.05
TOTALS	100.0	100.0	100.0	100.0	100.0	100.0

\*Summed figures may not equal 100.0 because of rounding.

SOURCE: Leven, 1972, at press.

#11 (42

APPLICATIONS OF THE COMPUTER TO LIBRARY OPERATIONS

Cf. 7.1 LIBRARY USES FOR THE COMPUTER - #11 (31) - c. #1242.

SHARING COMPUTER FACILITIES

cf. 7.8 COOPERATIVE LIBERAL ARTS CENTERS - #9 (94) -C. #1310.

# PROJECTED EXPENDITURES PER STUDENT - COMPUTER USE

**TABLE 1**  
*Projected expenditures per student on instructional computer use for 1971-72 (based on 1966-67 data and growth rate for all computer activity in higher education between 1966-67 and 1967-68)*

Degree level and enrollment	Projected average expenditure (in actual dollars)		Number of institutions	
	Public	Private	Public	Private
<i>Associate</i>				
<i>Below 500</i>	36	16	100	187
<i>500-2,499</i>	38	3	256	87
<i>2,500-9,999</i>	19	*	116	4
<i>10,000-19,999</i>	25	†	23	†
<i>Over 20,000</i>	†	†	†	†
<i>Bachelor's</i>				
<i>Below 500</i>	19	3	10	8
<i>500-2,499</i>	16	11	65	112
<i>2,500-9,999</i>	22	8	24	15
<i>10,000-19,999</i>	*	25	1	1
<i>Over 20,000</i>	†	†	†	†
<i>Master's</i>				
<i>Below 500</i>	*	25	4	97
<i>500-2,499</i>	8	27	40	156
<i>2,500-9,999</i>	16	22	133	58
<i>10,000-19,999</i>	14	19	8	2
<i>Over 20,000</i>	14	†	10	†
<i>Doctorate</i>				
<i>Below 500</i>	5	19	4	11
<i>500-2,499</i>	99	85	29	61
<i>2,500-9,999</i>	33	82	43	94
<i>10,000-19,999</i>	30	55	17	100
<i>Over 20,000</i>	36	16	6	100

\* Data unavailable.

† No schools in category.

SOURCE: Levien, 1972, in press.



## CURRICULUM DEVELOPMENT

The Carnegie Commission recommends a "major national study of the entire set of relationships that exists between school systems, state bureaucracies, school and college teachers, and the educational materials industry in the production and selection of materials. The purpose of the study would be to seek ways to improve the system by which curricular materials are chosen, created, and marketed. Such a study should shed light as well upon the difficulties and problems associated with the widespread adoption of educational technology."

#19 (74)

CURRICULUM DEVELOPMENT

The Carnegie Commission recommends that since "Curriculum development in the humanities and social studies has lagged behind mathematics and science, schools and colleges, together with funding agencies, should foster new programs and approaches

#19 (73)

# CURRICULUM

The Carnegie Commission recommends that "Greater attention in the curriculum should be given to (a) the creative arts and (b) world cultures."

#13 (47)

# COURSE AND CURRICULUM DEVELOPMENT - ETHNIC STUDIES

"State universities and state boards of education have a special responsibility for developing and testing the basic classroom discussion material concerning the history and special problems of different minority groups."

Cf. 4.0 COLLEGE COURSES AND MINORITY PROBLEMS - #2 (16)- C.#915.

#2 (16)

# CURRICULUM AND CURRICULUM DEVELOPMENT

7.6

Cf. 4.0 - C. #911 - #916, #918, #919

for information relative to curriculum and curriculum development -  
general instructional concerns

CURRICULUM EVALUATION

Cf. 4.0 RELEVANCE OF CURRICULUM - #13 (47) - C. #912.

# CURRICULUM REFORM

The Carnegie Commission suggests the following reforms in curriculum:

1. renovation of general education by providing programs directed toward "broad learning experiences"
2. earlier contact with actual professional problems in medicine and law
3. avoidance of duplication in work already completed on secondary level
4. "participation by students in curricular development and review"
5. encouragement of independent study

#22 (28-29)

TEACHER-TRAINING PROGRAMS - ADAPTING TO CHANGING NEEDS

cf. 4.4 ADAPTATION OF TEACHER-TRAINING PROGRAMS TO CHANGING NEEDS - #15 (79-80) - C. #1153.

7.6

1296



# INNOVATIONS IN ACADEMIC PROGRAMS

Cf. 4.4 for innovations in course and curriculum development - C. #1139 - 1188

APPROVING NEW PI MS

Cf. 2.32 AUTHORITIES OF COORDINATING AGENCIES - #5 (37) - C. #280.  
for role of state coordinating agency in approving "all new  
degree programs at the doctoral level, and new master's  
and baccalaureate programs in general fields not previous-  
ly offered, and in high-cost fields."

EVALUATION OF NEW PROGRAMS

The Carnegie Commission warns that "No new programs at either level should be initiated without clear criteria for evaluation.

#19 (77)

COMMISSION TO ASSESS INSTRUCTIONAL TECHNOLOGY

The Carnegie Commission recommends that "An independent commission supported either by an appropriate agency of the United States Department of Health, Education and Welfare or by one or more private foundations should be created to make assessments of the instructional technology. Findings of the commission should be published and appropriately disseminated for the advice of institutions of higher education, such cooperative learning-technology centers as may be established, and governments and foundations supporting the advancement of instructional technology."

411 (67)

# DEVELOPMENT OF INSTRUCTIONAL MATERIALS

The Carnegie Commission recommends that "no single segment of society should totally dominate the development of instructional materials in higher education and that colleges and universities should take initiative in such activities along with other instrumentalities."

#11 (6)

INNOVATIONS IN INSTRUCTIONAL TECHNOLOGY

The Carnegie Commission considers some significant developments in technology including:

- . Sweden's Television-Radio University
- . University of the Air in Japan
- . Great Britain's Open University
- . West Germany's extramural studies on the air
- . Empire State College in the United States

#11 (25-27)

- 1303 -

7.8

FEDERAL SUPPORT OF RESEARCH AND DEVELOPMENT IN INSTRUCTIONAL  
TECHNOLOGY

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Cf. 3.13 (Same title as above) - #11 (63)- c. #495.

# COMPUTER AS CONTROL UNIT FOR INSTRUCTIONAL SYSTEMS

The Carnegie Commission suggests the expanded use of computers as control units for "sophisticated instructional systems." The Commission predicts that "If it were desired, computers could operate fully automated, multimedia classrooms, combining taped lectures, films, audiopresentations, slides, and other materials according to a preset agenda."

Cf. #11 (The Fourth Revolution), p. 24 for a detailed explanation of the computer-controlled information system developed by MITRE Corporation.

#11 (24)



# USE OF TELEVISION NETWORK

Alexander Mood suggests that future educational concepts will consider the entire general public as students for whom large quantities of needed information should be available through a full-time television channel.

The functions of the proposed TV network will be:

. "to keep the public apprised of the state of the... whole spectrum of available learning opportunities."

. to provide news "about careers—both vocational and avocational"

#R37 (48)

INNOVATIONS - THE VIDEO UNIVERSITY - PRIMARY FUNCTIONS

Alexander Mood distinguishes the primary functions of the Video University as:

- "1. Ownership and operation of the cassette library. The library will be stored at numerous points over the nation so that cassettes will be available to students within one day by mail service; those in great demand might be stored in every community library and every high school.
2. Operation of the computer network
3. Maintenance of the two catalogs (record and cassette)
4. Operation of the testing program
5. Maintenance of student records of accomplishment
6. Operation of a TV network for dissemination of information about learning opportunities and career opportunities
7. Design of various external degree programs and the awarding of degrees"

cf. 7.8 INNOVATIONS - THE VIDEO UNIVERSITY - BENEFITS  
#R37 (41-43) - C. #1307.

#R37 (47)

7.8

INNOVATIONS - THE VIDEO UNIVERSITY - BENEFITS

Alexander Mood defines the Video University as a "nationwide institutional structure which ...would clarify possible learning opportunities for students..." by providing commercially produced learning cassettes for use on the student's home TV set.

The benefits of The Video University include:

- . "equality of educational opportunity with respect to age"
- . increased motivation through visual appeal of professionally developed and produced material
- . flexible schedule responsive to individual's free time
- . freedom from prerequisites
- . responsiveness to need for individualized learning
- . freedom from restrictions of specific order for learning material
- . ability to assemble and design individual curriculum to meet individual needs

7.8

cf. ^ INNOVATIONS - THE VIDEO UNIVERSITY - PRIMARY FUNCTIONS

#R37 (47) - C. #1307.

#R37 (41-43)

# REGIONAL LIBRARY NETWORKS

The Carnegie Commission emphasizes the Ohio College Library Center and the New England Library Network as "significant examples" of regional networks of educational libraries formed to make available to small colleges with limited budgets the information resources of larger institutions.

#11 (34-35)

REGIONAL LIBERAL ARTS CENTERS

The Commission urges that "federal funds be made available to regional liberal arts centers which would be established by groups of colleges for the purpose of increasing quality, scope, and diversity in undergraduate education, of stimulating more economical and effective use of administrative and teaching personnel, and of sharing library and computer facilities."

#1 (45)

# COOPERATIVE LIBERAL ARTS CENTERS

"The Commission reiterates its recommendation in Quality and Equality (#1) that the proposed National Foundation for the Development of Higher Education aid in planning liberal arts centers to be established by groups of colleges for the purpose of increasing quality, scope, and diversity of undergraduate education; of stimulating more economical and effective use of administrative and teaching personnel; and of sharing library and computer facilities."

#9 (94)

1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1  
30 32 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1

- 1311 -

7.8

## CHILD-CARE FACILITIES

The Carnegie Commission favors "Greater interest in the adequate provision of child-care facilities and policies of cooperation with groups seeking to provide child-care arrangements."

#20 (5)

## CONSTRUCTIVE CAMPUS ENVIRONMENT

The Carnegie Commission recommends the following measures to achieve a "more constructive environment on campus":

1. "More use of 'cluster college' and other methods of structuring students and faculty members into face-to-face groupings is needed."
2. "...more mixing of persons from different age groups, both in classes and in out-of-class contacts."
3. "More opportunities...to engage in work and service experiences."
4. "More attention...to advising—on personal, academic, and vocational matters."

#22 (29)



8.0

# STUDENT SERVICE AREAS NEEDING REFORM

cf. 1.0 PROBLEM AREAS NECESSITATING REFORM IN HIGHER EDUCATION - #13 (3-4)  
C. #22.

K596, 671 B

LITTON 405 - MCDEER

8.0

# REFORMS IN STUDENT SERVICE

cf. 1.4 STUDENT-ORIENTED REFORMS - #13 (4) - C. #150.

- 1315 -

STUDENT SERVICE CHANGES DESIRED BY STUDENTS AND FACULTY

8.0

cf. 3.22/3.24 CHANGES DESIRED BY STUDENTS AND FACULTY - #13 (2) - C. #573.

# STUDENT SERVICES FOR ADULT STUDENTS

"Wherever academic programs are offered for students who are adults of all ages, the rules for student conduct, campus traditions, and the learning environment will be hospitable to them, and will not discriminate against older students."

#21 (85)

SOCIAL AND CULTURAL DEVELOPMENT

cf. 1.4 STUDENT-FOCUSED REFORMS - #13 (1) for proposal that academic reforms be initiated which "will enhance the opportunity for each student, given his natural strengths, to find a learning environment that will best help him to create for himself a fuller and more satisfying life." C. #149.

#13 (1)

## STUDENT DEVELOPMENTAL GROWTH - "LIFE-LONG LEARNING"

The Carnegie Commission suggest that higher education evidence "More concern for the quality of the environment which affects the developmental growth of the students; in particular, more mixing of studies with work and service, and more mixing of age groups on campus." Specifically, the Commission supports "A major expansion of opportunities for 'life-long learning'."

#17 (2)

COMPETITIVE SPORTS - PARTICIPATION BY WOMEN

"Opportunities for women to participate in competitive sports should be strongly encouraged."

#20 (79)

# STUDENT PROTEST

The Carnegie Commission declares that "Basically, participation in demonstrations springs more from the nature of the student and his or her reaction to external events, and from an environment that facilitates protest endeavors, than from dissatisfaction with academic life."

cf. #13 (90-93) for specific tables which support this finding

#13 (19-20)



## PROVIDING EMPLOYMENT EXPERIENCE

The Carnegie Commission recommends that service and other employment opportunities be created for students between high school and college and at stop-out points in college through national, state, and municipal youth programs, through short-term jobs with private and public employers, and through apprenticeship programs in the student's field of interest; and that students be actively encouraged to participate."

cf. 3.24 WORK EXPERIENCE AS ADMISSION REQUIREMENT - #6 (13) - C. #832.

#6 (13)

ADVISING - IMPORTANT ASPECT OF EDUCATION

The Carnegie Commission recommends that "Enhanced emphasis should be placed on advising as an increasingly important aspect of higher education."

cf. 8.3 ADVISING - NEEDED IMPROVEMENTS - #13 (55) for specific recommendation C. # 1323.

ADVISING - NEEDED IMPROVEMENTS

The Carnegie Commission readily admits perplexity concerning how to improve advising, which they declare "is not now a well-performed aspect of higher education." The Commission suggests, however, the following:

- . raising advising to a higher order of importance
- . making advising a more recognized assignment for faculty members
- . relying on well-trained and carefully selected professional personnel for financial, vocational, and psychological advising, and giving this professional personnel more status on campus-- including joint academic appointments when appropriate
- . designating a dean or an associate dean to be concerned with the quality of advising services on campus in their entirety

#13 (55)

-1324-

**THIS PAGE WAS MISSING FROM THE DOCUMENT THAT WAS  
SUBMITTED TO ERIC DOCUMENT REPRODUCTION SERVICE.**

# NEED FOR EXPANSION IN COUNSELING SERVICES

" . . .in view of the critical need for counseling services for disadvantaged students, the changes that are occurring in patterns of participation in higher education, and the complex shifts that are taking place in the labor market for college graduates, we believe that counseling services will need to be expanded rather than contracted in many colleges and universities."

#12 (142)

Need for improved counseling - EXIT INTERVIEW

cf. - 3.24 - RETENTION RATE - #12 (60-61) - C. #850.

The Carnegie Commission suggests the establishment of "exit interviews" for every student planning to withdraw.

IMPLICATIONS OF NEW TECHNOLOGY ON ADVISING

The Carnegie Commission predicts that, as the result of new informational technology, "Good systems for informing and advising students will become more essential and more complex as additional options are made available and as more instructional opportunities are located off campus."

#11 (5)

GUIDANCE PROGRAMS

8.8

Cf.  NEW GUIDANCE SYSTEMS - #19 (4) - C. # 1453.



# FEDERAL AID PROGRAM - GUIDANCE, COUNSELING, TESTING

The Commission recommends that "the present federal aid program of guidance, counseling, and testing for identification and encouragement of able students be expanded to include the elements described above\* and that funding for the program be increased to \$30 million in 1970-71, rising to \$40 million in 1976-77."

\* The federal program should include "support of research activities to develop better ways to identify qualified students ...Federal training courses should be established for high school teachers and counselors to keep them up to date on financial aid, college programs, and career possibilities."

**Of 8.3 METROPOLITAN EDUCATIONAL OPPORTUNITY COUNSELING CENTERS**  
**- #14 (117) - C. #1330.**

#1 (24)

METROPOLITAN EDUCATIONAL OPPORTUNITY COUNSELING CENTERS

Cf. #14 (109-113) for proposed functions

Cf. 8.3 FEDERAL AID PROGRAM - #1 (24) for discussion of amounts C. #1329.

The Commission recommends that "a very substantial part of this funding for counseling (\$30 million) be channeled through the proposed metropolitan educational opportunity counseling centers."

In addition the Commission recommends "that the centers be funded one-half from local sources and one-half from state and federal sources. We also recommend that funding for administrative expenses of the metropolitan councils be similarly shared, with one-half from local sources and one-half from state and federal sources."

#14 (117)

# COUNSELING THE POORLY MOTIVATED

"The Commission recommends that colleges and universities inaugurate programs designed to discourage poorly motivated students from entering and from continuing once they have entered. These programs should be designed to include appropriate counseling of applicants, generally through the admissions office, as well as counseling of all undergraduate students, perhaps through the medium of a regular annual interview."

#12 (62)

COUNSELING EDUCATIONALLY DISADVANTAGED

cf. 4.4 RESPONDING TO NEEDS OF EDUCATIONALLY DISADVANTAGED THROUGH 'FOUNDATION YEAR' - #2 (13-14) for recommendation of intensive counseling during first-year period - C. #1136.



"FOUNDATION YEAR"

"The Commission reaffirms its recommendation that an individualized "foundation year" be made available on an optional basis for all interested students..." In this way and through this method the Commission suggests that students with remedial needs would be given intensive counseling and wide latitude to find programs that fit their interests and needs.

#3 (22)

CONSIDERATION OF WOMEN'S PROBLEMS

Cf. 3.2 REMOVAL OF BARRIERS TO ADVANCEMENT OF WOMEN -#20 (3-4) - C. #546.

**Cf.:**

4.1 MAKING UP MATHEMATICS DEFICIENCIES - #20 (79) - C. #955.



CAREER GUIDANCE

The labor market is now (1973)"failing to absorb, in positions that utilize their training, some of the graduates that result from a policy of universal access."

cf. 1.0 ACCESS TO Higher EDUCATION - #21 (1) - C. #29.

#21 (1)

8.3

LABOR MARKET

The Carnegie Commission recognizes that "the labor market is now a serious concern for higher education and will remain so." The Commission observes that the temporary job crisis for college graduates of the period between 1968 and 1973 has abated, but the Commission warns that the "long-run situation still deserves careful attention."

#15 (1)

# CHANGING LABOR MARKET FOR COLLEGE GRADUATES

The Carnegie Commission observes that the labor market situation for college-trained people is changing. The Commission encourages campuses "to adapt more quickly to the changing labor market situation and to the new changeability of student interests, which are produced in part, by the changes in the labor market."

#13 (24)

# JOB PROSPECTS FOR COLLEGE GRADUATES

The Carnegie Commission expresses confidence that "Job prospects for college graduates...will be generally better than in 1958 to 1973, as far as we can see ahead, but it seems likely that the absorption ability of the labor market for some years in the future—especially for some occupations—will fall below the output rate of college graduates by significant, though not by overwhelming, margins."

#22 (6)

CONSEQUENCES OF NEW LABOR MARKET SITUATION FOR COLLEGE GRADUATES

The Carnegie Commission acknowledges that the potential consequences of the new labor market situation for college graduates are both negative and positive. The Commission, however, is quick to assert their belief "that the positive potentialities outweigh the negative, provided the proper adjustments to the new situation are made."

Cf. #15 (14-17) for detailed list of poetential consequences

#15 (18)

8.3

# IMPLICATIONS OF JOB-MARKET ON HOLDERS OF MASTER'S DEGREES

cf. 4.12, 4.13 IMPLICATIONS OF JOB-MARKET ON MASTER'S PROGRAMS  
 #15 (161) for concern of Commission over lack of analysis  
 of the implications of the changing job market for  
 holders of master's degrees and for master's programs  
 in colleges and universities. Card #1005.

HIGHER EDUCATION AND MANPOWER NEEDS

cf. 4.0 HIGHER EDUCATION AND MANPOWER NEEDS - #15 (152) -  
C. #920.

USING ALUMNI IN CAREER COUNSELING

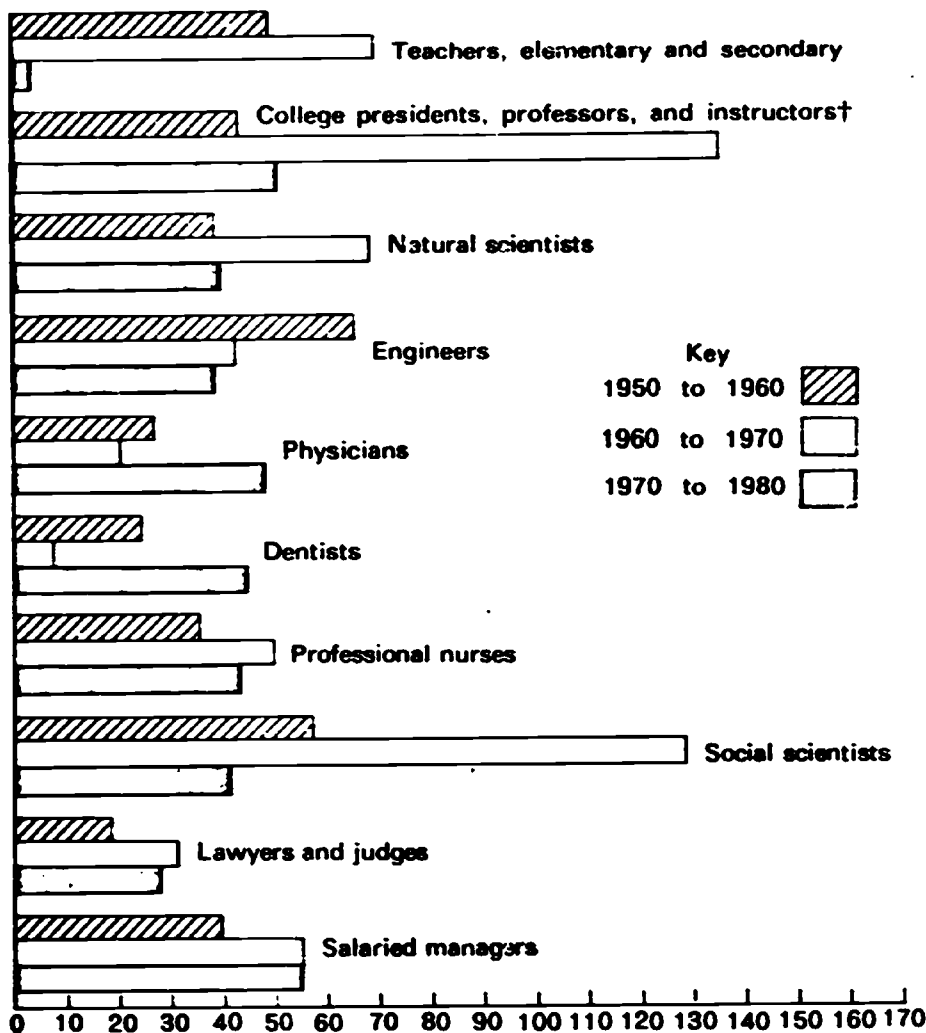
cf. 3.25 INNOVATIVE USE OF ALUMNI IN HIGHER EDUCATION - #67  
(71-72) - C. #872.



# PERCENTAGE CHANGES IN EMPLOYMENT IN SELECTED OCCUPATIONS

8.3

**CHART 7** *Percentage changes in employment in selected professional and managerial occupations, actual, 1950 to 1960, 1960 to 1970, and projected, 1970 to 1980\**



**Key**  
 1950 to 1960 [Hatched]  
 1960 to 1970 [White]  
 1970 to 1980 [White]

\*The projections relate to manpower requirements.

†Projection includes full-time faculty only.

**SOURCES:** U.S. Department of Labor (2, pp. 107 and 112); U.S. Bureau of the Census (17, Table 3); U.S. Bureau of the Census (24, Table 3); U.S. Bureau of the Census (25, Table 8); U.S. Bureau of Labor Statistics (25, p. 1); and U.S. Bureau of Labor Statistics (26, p. 58). In some cases, estimates have been developed by the Carnegie Commission staff.

# OCCUPATION GROUP OF EMPLOYED 1970 and 1971 DEGREE RECIPIENTS

*Occupation group of employed 1970 and 1971 degree recipients, October 1971, and of all college graduates, March 1971*

	Men		Women	
	<i>All graduates, March</i>	<i>Recent degree recipients, October</i>	<i>All graduates, March</i>	<i>Recent degree recipients, October</i>
<b>TOTAL</b>	100.0	100.0	100.0	100.0*
<i>Professional, technical and kindred workers</i>	57.6	66.2	74.9	74.1
<i>Managers and administrators, except farm</i>	25.3	3.2	3.5	1.7
<i>Clerical and kindred workers</i>	3.8	7.1	12.3	18.2
<i>Sales workers</i>	7.3	11.3	2.0	1.7
<i>All other occupation groups</i>	6.0	12.2	7.3	4.4

\* Items add to slightly more than total because of rounding.

8.3

1347

**DISTRIBUTION OF COLLEGE GRADUATES BY MAJOR OCCUPATIONAL GROUP (1970 and 1980)**

**TABLE 1**  
Distribution  
of college  
graduates by  
major  
occupational  
group, actual,  
1970 and  
projected, 1980

Occupational group	1970			1980		
	Total employment* (thousands)	College graduates† (thousands)	Percentage of graduates to total	Total employment* (thousands)	College graduates† (thousands)	Percentage of graduates to total
All occupational groups	78,626	10,030	12.8	95,100	15,907	16.7
Professional and technical	11,140	6,662	59.8	15,500	10,540	68.0
Managers, officials, and proprietors	8,289	1,666	20.1	9,500	2,926	30.8
Sales	4,854	573	11.8	6,000	996	16.6
Clerical	13,714	645	4.7	17,300	865	5.0
All other	40,629	484	1.2	46,800	580	1.2

OCCUPATIONAL TRAINING AND COUNSELING

Cf. 4.2 ADJUSTING TO CHANGING LABOR MARKET - #17 (21) - C. #1047.

MANPOWER UTILIZATION

The Carnegie Commission refers to The Manpower Report of the President, 1972 in noting that of the 9.6 million college-educated persons who will be absorbed by the labor force during the 1970's, "2.6 million (will be absorbed) by educational upgrading of positions that have not normally utilized college-educated persons in the past." Even at the present time, "30 percent of four-year male college graduates are now in blue-collar, sales, and clerical jobs, many of which do not make full use of their education."

The Manpower Report of the President, 1972, p. 114 quoted in #15 (2), also #15 (4)

- 135C -

8.3

MANPOWER SUPPLY AND DEMAND STUDIES - RESPONSIBILITY OF PROFESSIONAL SCHOOLS

Cf. 4.1 PROFESSIONAL SCHOOLS - RESPONSIBILITY FOR MANPOWER STUDIES -  
#15 (138) - C. #937.

EDUCATIONAL QUALIFICATIONS AS PART OF JOB REQUIREMENTS

"Employers should not raise educational requirements in response to changes in the job market for college graduates. We strongly recommend that educational requirements should not be imposed except where they are clearly indicated by job requirements."

#15 (170)

# ENTRANCE TO THE PROFESSIONS

The Carnegie Commission suggests that "professions, wherever possible, create alternate routes of entry other than full-time college attendance, and reduce the number of narrow, one-level professions which do not afford opportunities for advancement."

#6 (14)



# WORK AND SERVICE OPPORTUNITIES

The Carnegie Commission recommends that "More work and service opportunities should be created for students by government and industry and non-profit agencies, and students should be encouraged to pursue these opportunities, including, occasionally, through 'stop-outs'."

#17 (21)

cf. 8.2 PROVIDING EMPLOYMENT EXPERIENCE - #6 (13) - C. #1321.  
8.4 WORK STUDY - Cards #1437 and #1438.

FUTURE MANPOWER NEEDS

cf. 4.2 Non-traditional skills - #21 (18-19) - C. #1048.

8.3

### EMPLOYMENT OF HOLDERS OF NBA'S

"The rising demand for salaried managers is likely to be a major factor in continued growth in the employment of M.B.A.'s and holders of other appropriate degrees in the 1970s. "

#15 (116)

# CAREER OUTLOOK FOR THE 1970S - TEACHING

The Carnegie Commission recognizes that "the occupations in which surpluses of college-educated jobseekers are likely to be most serious in the 1970s are elementary and secondary school teaching and college-level instruction."

#15 (69)

# ACTUAL AND PROJECTED DEMAND FOR TEACHERS COMPARED WITH NUMBER OF COLLEGE GRADUATES

**TABLE 2**  
*Actual and projected demand for new elementary and secondary school teachers compared with number of college graduates, selected years, 1963-1980 (numbers in thousands)*

Year	Total teachers employed	Number required for growth and replacement	New teachers required*	Total number of college graduates†	New teachers required as percent of graduates
1963	1,806	209	157	444	35
1966	2,028	228	171	551	31
1968	2,162	230	173	667	26
1970	2,312	231	173	827	21
1972	2,326	180	135-180	903	15-20
1974	2,323	175	131-175	990	13-18
1976	2,311	177	133-177	1,100	12-16
1978	2,317	181	136-181	1,207	11-15
1980	2,349	200	150-200	1,300	12-15

\* Figures for 1963-1970 represent 75 percent of the total number required for growth and replacement, with a conservative allowance for the numbers of teachers who returned to the profession. Since the return flow of experienced teachers may possibly decline during the 1970s, the ranges shown indicate the numbers and percents of new teachers that would be required with a return flow ranging from 0 to 25 percent.

† Includes bachelor's and first-professional degrees awarded.

SOURCE: U.S. Department of Labor (2, p. 119).

COUNSELING PROMISING STUDENTS IN TEACHER EDUCATION

The Carnegie Commission urges counselors "not to neglect the need to encourage promising students to prepare themselves for specialized fields in which the demand for teachers is likely to rise."

#15 (80)

The Carnegie Commission suggests that the "prospects for an excess supply of teachers suggest that school districts should seize the opportunity to expand and improve intensive programs of compensatory education for disadvantaged youngsters."

#15 (71)



ENGINEERING - A MALE DOMAIN

The Carnegie Commission recognizes that "Engineering has been an almost exclusively male occupation, and it accounts for more male professional workers by a considerable margin than any other professional occupation."

Cf. 3.24 ENROLLMENT OF WOMEN - ENGINEERING PROGRAMS - #15 (125) for recommendation that "engineering schools should encourage the recent upward trend in the enrollment of women." C. #818.

#15 (119)

SURPLUS OF ENGINEERING DOCTORATES

Cf. 4.13 ENGINEERING DOCTORATES - PREDICTED SURPLUS - #15 (124) - C. #103

4.1 C. #944, #945 for information about engineering enrollments which are affected by job market

# OUTLOOK FOR LEGAL PROFESSION

The Carnegie Commission supports the conclusions of the staff report of the Commission on Human Resources and Advanced Education that the future demand for lawyers will continue to increase. The Commission notes the diversification of sources of demand for legal services as an underlying consideration supporting their optimistic predictions.

#15 (102-103)

RATIO OF LAWYERS TO 100,000 POPULATION, ACTUAL AND PROJECTED

<i>Ratios of lawyers to 100,000 population, actual, 1900-1970, and projected, 1980</i>	<i>CHRAE-ABF</i>	<i>Census-BLS</i>
1900	141	141
1920	115	115
1940	137	137
1950	135	113
1960	138	116
1970	160	133
1980	'	
<i>Series D</i>	201	147
<i>Series E</i>	203	149

# TOTAL NUMBER OF LAWYERS, SELECTED YEARS, ACTUAL AND PROJECTED

*Total number  
of lawyers,  
selected years,  
actual, 1900-  
1970, and  
projected, 1980*

	CHRAE-ABF	Census-BLS
1900	107,592	107,592
1920	122,519	122,519
1940	180,483	180,483
1950	205,539	171,480
1960	250,132	208,696
1970	324,818	272,400
1980	457,000	335,000

SOURCE: Appendix A. Table A-4; 4, p. 77; 89, p. 5; 19, pp. 111 and 178; and 90, pp. 153-154.

EMPLOYMENT PATTERNS - PH.D.'S

cf. 4.12/4.13 PROJECTED ESTIMATES OF PH.D.'S - #15 (143) - C.#103

The Carnegie Commission attributes the depressed job market for Ph. D.'s to the "expected slowing down in the rate of increase and the subsequent decline in enrollment in higher education."

The Commission admits that uncertainties surrounding the future behavior of the birthrate make the outlook for the 1990s unpredictable.

#15 (144-145)

# PROSPECTS FOR PH.D'S

A group which the Carnegie Commission expresses special concern about is male Ph. D's. The Commission declares that "They constitute a special potential crisis situation that will result in massive disappointments in the later years of the 1970s and the early 1980s. This is the most serious single problem area we see ahead."

#15 (8)

## SUPPLY AND DEMAND STUDIES FOR PH.D.'S

The Carnegie Commission recommends that "Agencies and individuals that have been conducting studies of future supply and demand for Ph.D.'s should continue to review and update their work. We are impressed by the differences in outlook among fields and believe that the time has come for increased emphasis on projections relating to individual fields or groups of fields and less reliance on broad aggregative studies."

#15 (160)



NEED FOR ADDITIONAL INFORMATION - SCIENTIFIC FIELD

The Carnegie Commission emphasizes "a need for continuous and sophisticated analyses of demand and supply relationships in scientific fields."

#15 (134)

# PROJECTIONS OF SHORTAGES AND SURPLUSES IN THE NATURAL SCIENCES AND SOCIAL SCIENCES BY 1980

**TABLE 3**  
*Projections of shortages and surpluses in the natural sciences and social sciences, by 1980*

Field	U.S. Bureau of Labor Statistics	National Science Foundation (Ph.D.'s)	
			R. B. Freeman (Ph.D.'s)
<i>Physical sciences</i>		Surplus or shortage*	Shortage
Chemists	Significant shortage		
Geologists and geophysicists	Slight shortage		
Physicists	Significant shortage		Shortage
Life sciences	Significant surplus	Surplus	
Mathematicians	Significant surplus	Surplus	
Social sciences		Surplus	

\*The NSF high utilization assumption would result in a shortage; the low utilization assumption would result in a surplus.

SOURCES: U.S. Bureau of Labor Statistics (25); National Science Foundation (113); and R. B. Freeman (122).

HIRING AND PROMOTING PRACTICES

Although not related specifically to career and employment counseling, the Carnegie Commission proposal that "employers, both private and public, hire and promote on the basis of talent alone as well as on prior certification" is of interest to anyone involved in counseling for employment.

#6 (14)

EMPLOYMENT OF COLLEGE-EDUCATED

The Carnegie Commission refers to a United States Bureau of the Census survey statement which declares that the educational upgrading of occupations will continue, resulting in an under-employment of talent rather than the unemployment of the college educated person.

#15 (1-2)

# OCCUPATIONAL COUNSELING

In view of the rapidly changing job market for college graduates the Carnegie Commission recommends that "Colleges and universities should take immediate steps to strengthen occupational counseling programs available to their students. We also recommend that college placement services be strengthened where they have not been well developed. Professional schools should maintain their own placement programs for those receiving master's, first-professional, and doctor's degrees, while arts and science departments should have their own placement programs for students at the doctoral level."

#15 (167)

# FEDERAL INVOLVEMENT IN OCCUPATIONAL COUNSELING

The Carnegie Commission recommends that "Federal government agencies should take steps to improve the flow of current occupational information and to make it available more promptly.

#15 (187)

# CAREER GUIDANCE

Advocating that "more attention should be given to assisting students to make appropriate career choices," Alexander Mood emphasizes that "Institutions of higher education should recognize that many careers of the future will not be primarily income-oriented."

The Carnegie Commission suggests that although "public policy has had and will have a major impact on the labor market situation for college graduates...", career influence should be effected by a policy of "selective involvement, rather than total public responsibility and control."

**#15 (8-9)**



- 1377 -

8.3

VOCATIONAL AND PERSONAL COUNSELING - TESTING BENEFITS

cf. 3.24 TESTING- EVALUATING NEEDS AND ACOOMPLISHMENTS - #13 (53) -  
C. #836.

STUDENT CAREER CHOICES

The Carnegie Commission recognizes the responsiveness of students to changes in labor conditions, noting that student choices "should be respected, in college and by government, as they (students) prepare themselves for occupations."

#15 (10-11)

**PROBABLE CAREER CHOICES OF COLLEGE FRESHMEN - MEN (1966-1972)**

8.3

<i>Career choice</i>	1966	1967	1968	1969	1970	1971	1972
<b>Men</b>							
<b>TOTAL*</b>	100.3%	100.1%	100.1%	99.3%	100.1%	100.0%	100.0%
<i>Businessman</i>	18.6	17.5	17.5	16.9	17.4	16.1	15.4
<i>Lawyer</i>	6.7	5.8	5.5	5.6	6.2	6.8	7.1
<i>Engineer</i>	16.3	15.0	14.6	14.5	13.3	9.7	9.6
<i>College teacher</i>	2.1	1.4	1.3	1.3	1.2	0.8	0.7
<i>Teacher, elementary and secondary</i>	11.3	11.2	12.7	10.9	9.6	7.5	5.7
<i>Physician or dentist</i>	7.4	6.4	5.6	4.9	5.9	6.4	7.9
<i>Other health professions</i>	3.2	2.7	2.9	2.8	3.0	4.1	4.8
<i>Research scientist</i>	4.9	3.9	3.8	3.3	3.5	3.3	3.1
<i>Farmer or forester</i>	3.2	3.3	2.9	3.0	3.1	4.8	4.8
<i>Clergyman</i>	1.2	1.9	1.1	1.4	1.3	1.0	1.0
<i>Artist (including performer)</i>	4.6	4.1	4.2	4.3	5.1	4.9	5.2
<i>Other choice</i>	15.8	16.7	16.7	19.3	19.0	21.7	21.3
<i>Undecided</i>	5.0	10.2	11.3	11.6	11.5	12.9	13.4

**PROBABLE CAREER CHOICES OF COLLEGE FRESHMEN - WOMEN**

Career choice	1966	1967	1968	1969	1970	1971	1972
<b>Women</b>							
<b>TOTAL*</b>	99.8%	99.8%	99.9%	100.1%	100.2%	100.0%	99.9%
Businesswoman	33	33	33	36	42	44	48
Lawyer	0.7	0.6	0.6	0.8	1.0	1.4	2.0
Engineer	0.2	0.2	0.2	0.3	0.4	0.2	0.3
College teacher	1.5	0.9	0.9	0.8	0.9	0.6	0.6
Teacher, elementary and secondary	34.1	36.4	37.5	36.5	31.0	24.8	19.5
Physician or dentist	1.7	1.5	1.3	1.3	1.5	2.0	2.8
Nurse	5.3	5.4	6.1	6.0	8.7	8.6	9.8
Other health professions	6.6	6.3	5.7	6.0	6.4	8.8	10.4
Research scientist	1.9	1.6	1.7	1.4	1.6	1.5	1.5
Farmer or forester	0.2	0.1	0.1	0.2	0.4	0.7	0.7
Clergywoman	0.8	0.3	0.2	0.3	0.2	0.2	0.2
Artist (including performer)	8.9	8.1	7.8	7.6	7.6	7.2	8.0
Other choice	31.0	25.2	23.7	24.3	24.5	26.1	24.9
Undecided	3.6	9.9	10.8	11.0	11.8	13.5	14.4

\* Totals may differ from 100.0 because of rounding.

SOURCE: American Council on Education (annual)

35 32 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1

1381

8.3

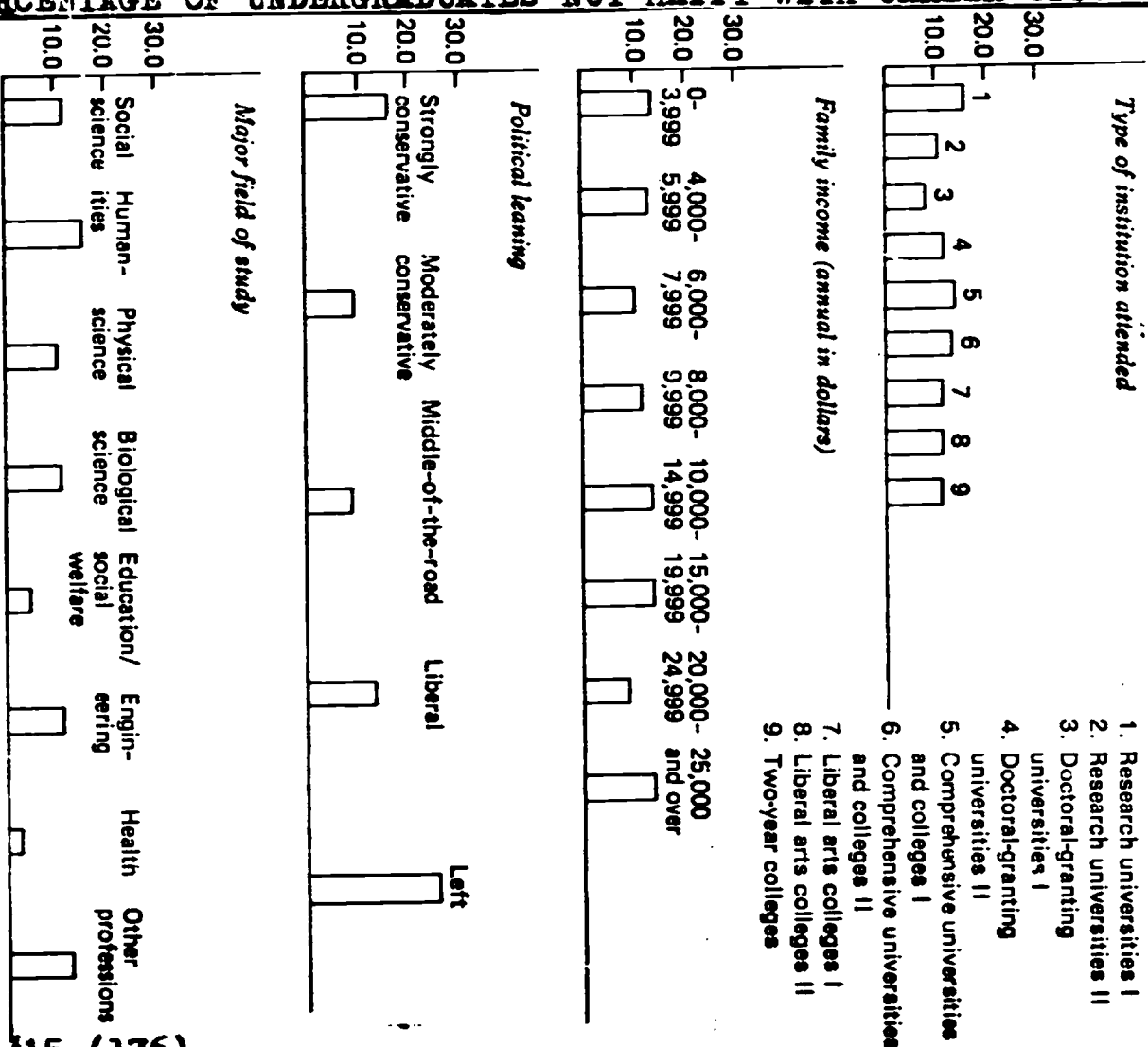
## VOCATIONAL INTERESTS

"Efforts to eliminate sex bias from vocational interest questionnaires should be encouraged, as should research designed to achieve a more adequate understanding of similarities and differences in patterns of vocational choices among men and women."

#20 (57)

# PERCENTAGE OF UNDERGRADUATES NOT HAPPY WITH CAREER OPPORTUNITIES

CHART 29 Percentage of undergraduates agreeing with the statement, "I cannot imagine being happy in any of the careers available to me," by selected characteristics of students and their institutions

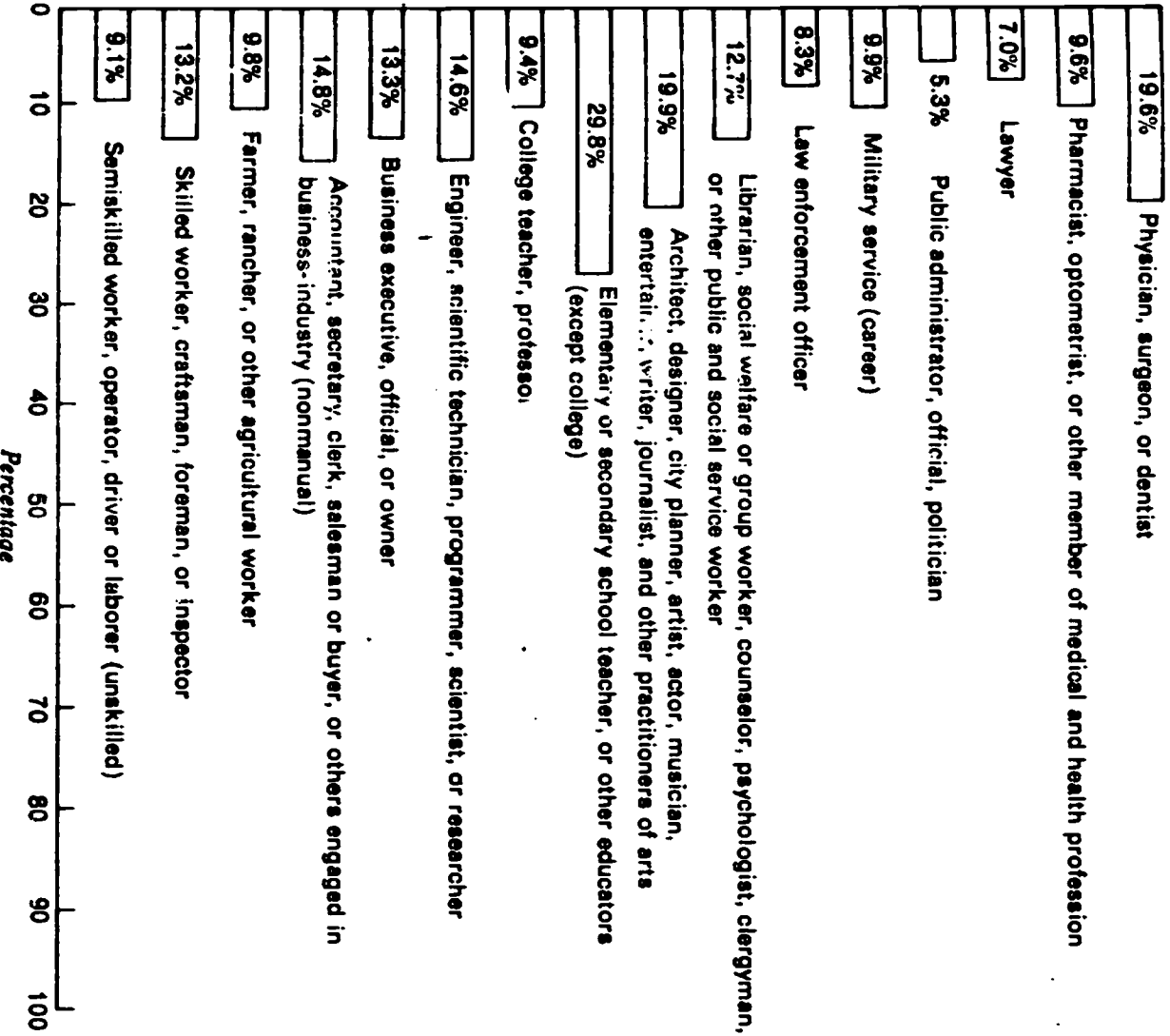


NOTE: Percentages include students who replied "strongly agree" or "agree with reservations." Other possible replies included "strongly disagree" and "disagree with reservations."

SOURCE: Carnegie Commission Survey of Students and Faculty, 1969.

# PERCENTAGE OF UNDERGRADUTES NOT HAPPY WITH CAREER OPPORTUNITIES

FIGURE 30 Percentage of undergraduates agreeing with the statement, "I cannot imagine being happy in any of the careers available to me," by father's occupation



NOTE: Percentages include students who replied "strongly agree" or "agree with reservations." Other possible replies included "strongly disagree" and "disagree with reservations".

SOURCE: Carnegie Commission Survey of Students and Faculty, 1969.

## CAREER COUNSELING FOR WOMEN

"Not only should colleges and universities take immediate steps to strengthen occupational counseling programs generally in this era of a changing job market for college graduates, but they should also take special steps to strengthen career counseling programs for women. Counselors should be trained to discard outmoded concepts of male and female careers and to encourage women in their abilities and aspirations."

#20 (79)



# PERCENTAGE OF WOMEN MENTIONING CAREER CHOICES

Percentage of black and nonblack freshman women mentioning selected career choices, fall 1971

	Black	Nonblack
Businesswoman	8.5%	41%
College teacher	1.7	0.5
Physician or dentist	3.3	1.9
Elementary or secondary school teacher	20.8	25.0
Engineer	0.5	0.2
Lawyer	3.3	1.3

# WOMEN - PERCENTAGE OF ALL EMPLOYED PERSONS (1960 and 1970)

Women as a percentage of all employed persons, selected occupations, 1960 and 1970

	1960	1970
Accountants	16.5	26.2
Architects	2.1	3.6
Engineers	0.9	1.6
Lawyers and judges	3.5	4.9
Life and physical scientists	9.2	13.7
Dentists	2.1	3.4
Pharmacists	7.5	12.0
Physicians, including osteopaths	6.9	9.3
Teachers, college and university	23.9	28.6*
Engineering and science technicians	11.1	12.9
Radio operators	16.7	25.9
Designers	19.3	24.2

\*Census data on "teachers, college and university," include graduate teaching assistants, whereas other data to be discussed later do not include this group. According to National Education Association data (1972), women accounted for 27 percent of faculty members, not including teaching assistants, in 1971-72.

# INDUSTRY OF EMPLOYED PERSONS - FEMALE - 1971

8.3

Sex, industry group, and selected industries	Total employed (percent)	No college	1-3 years college	4 years or more
<b>Female</b>				
Agriculture	100	85	14	1
Nonagricultural industries	100	74	14	12
Mining				
Construction	100	73	21	6
Manufacturing	100	89	8	3
Durable goods	100	88	9	3
Nondurable goods	100	89	8	3
Transportation and public utilities	100	77	17	6
Trade	100	85	12	3
Finance, insurance, and real estate	100	75	21	4
Service*	100	63	15	22
Private households	100	95	4	1
Other services*	100	58	17	25
Business and repair	100	73	19	8
Personal	100	90	8	2
Entertainment and recreation	100	71	15	14
Professional services	100	51	18	31
Medical	100	72	19	9
Hospital	100	67	22	11
Welfare	100	57	19	24
Education	100	33	16	51
Other	100	68	20	12
Public administration	100	71	21	8
Postal	100	75	21	4
Other federal	100	66	26	8
State	100	71	17	12
Local	100	75	19	6

1388

# INDUSTRY OF EMPLOYED PERSONS - MALE 1971

8.3

Sex, industry group, and selected industries	Total		1-3		4 years or more
	employed (percent)	No college	years college		
Male					
Agriculture	100	88	8		4
Nonagricultural industries	100	70	14		16
Mining	100	83	8		9
Construction	100	85	10		5
Manufacturing	100	77	12		11
Durable goods	100	78	12		10
Nondurable goods	100	76	12		12
Transportation and public utilities	100	80	13		7
Trade	100	73	17		10
Finance, insurance, and real estate	100	44	26		30
Service*	100	46	14		40
Private households	100	75	9		6
Other services*	100	46	14		40
Business and repair	100	71	16		13
Personal	100	82	13		5
Entertainment and recreation	100	66	20		14
Professional services	100	30	13		57
Medical	100	23	6		71
Hospital	100	61	13		26
Welfare	100	31	10		59
Education	100	26	12		62
Other	100	24	19		57
Public Administration	100	65	18		17
Postal	100	76	20		4
Other federal	100	53	17		30
State	100	56	18		26
Local	100	70	20		10

EMPLOYED WOMEN WITH ONE TO THREE YEARS OF COLLEGE BY MAJOR OCCUPATION GROUP  
(1959, 1968, 1971)

*Employed  
women with  
one to three  
years of college,  
by major  
occupation  
group, 1959,  
1968, and 1971*

	1959	1968	1971
<i>All women with one to three years of college</i>	100.0	100.0	100.0
<i>Professional, technical, and kindred workers</i>	31.9	24.4	21.7
<i>Managers, officials, and proprietors, except farm</i>	6.9	5.4	6.5
<i>Salaried managerial workers</i>	4.4	4.0	5.0
<i>Self-employed managerial workers</i>	2.5	1.4	1.5
<i>Clerical and kindred workers</i>	40.7	48.4	46.6
<i>Sales workers</i>	7.3	6.0	7.2
<i>All other occupation groups</i>	13.2	15.8	18.0

SOURCE: U.S. Bureau of Labor Statistics (18).

- 1390 -

8.3

**EMPLOYED MEN WITH ONE TO THREE YEARS OF COLLEGE BY MAJOR OCCUPATION GROUP  
(1959, 1968, 1971)**

<i>Employed men with one to three years of college, by major occupation group, 1959, 1968, and 1971</i>	1959	1968	1971
<i>All men with one to three years of college</i>	100 0	100.0	100.0
<i>Professional, technical, and kindred workers</i>	18.3	20.0	18.5
<i>Managers, officials, and proprietors, except farm</i>	24.4	22.1	22.1
<i>Salaried managerial workers</i>	14.4	17.1	17.9
<i>Self-employed managerial workers</i>	10.0	5.0	4.2
<i>Clerical and kindred workers</i>	12 5	12.6	11.0
<i>Sales workers</i>	12.6	15.6	11.7
<i>All other occupation groups</i>	32.2	29.7	36.7

SOURCE: U.S. Bureau of Labor Statistics (18).

1391 8.3  
EMPLOYED FEMALE COLLEGE GRADUATES BY MAJOR OCCUPATION GROUP (1959, 1968, 1971)

*Employed  
female college  
graduates  
by major  
occupation  
group, 1959,  
1968, and 1971*

	1959	1968	1971
<i>All college graduates</i>	100.0	100.0	100.0
<i>Professional, technical and kindred workers</i>	79.1	81.0	76.0
<i>Managers, officials, and proprietors, except farm</i>	<u>4.1</u>	<u>4.1</u>	<u>5.3</u>
<i>Salaried managerial workers</i>	2.6	3.4	4.6
<i>Self-employed managerial workers</i>	<u>1.5</u>	<u>0.7</u>	<u>0.7</u>
<i>Clerical and kindred workers</i>	11.8	10.4	10.8
<i>Sales workers</i>	2.3	1.2	2.7
<i>All other workers</i>	2.7	3.3	4.4

SOURCE: U.S. Bureau of Labor Statistics (18). The data are not precisely comparable with those in the preceding table because they relate to employed female workers rather than to the experienced civilian labor force.

EMPLOYED MALE COLLEGE GRADUATES BY MAJOR OCCUPATION GROUP (1959, 1968, and 1971) 8.3

Employed  
male college  
graduates  
by major  
occupation  
group, 1959,  
1968, and 1971

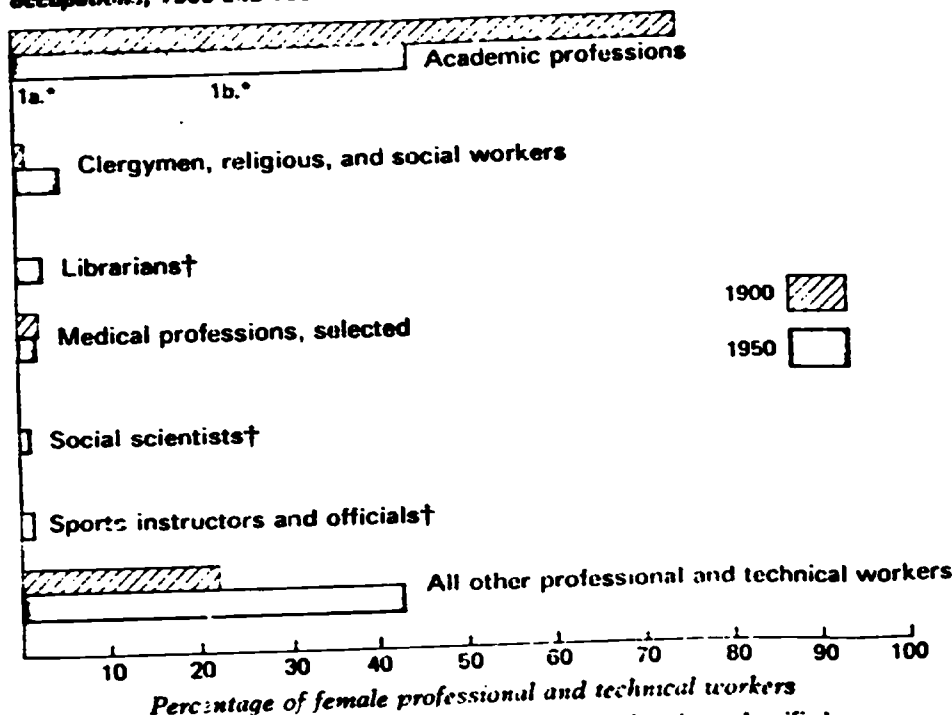
	1959	1968	1971
All college graduates	100.0	100.0	100.0
Professional, technical, and kindred workers	59.8	60.4	57.6
Managers, officials, and proprietors, except farm	18.3	22.7	25.3
Salaried managerial workers	13.1	19.9	22.7
Self-employed managerial workers	5.2	2.8	2.6
Clerical and kindred workers	5.4	4.4	3.8
Sales workers	7.9	6.7	7.3
All other occupation groups	8.6	5.8	6.0

SOURCE: U.S. Bureau of Labor Statistics (18). The data are not precisely comparable with those in the preceding table because they relate to employed male workers rather than to the experienced civilian labor force.



PERCENTAGE OF FEMALE PROFESSIONAL AND TECHNICAL WORKERS IN SELECTED OCCUPATIONS (1900-1950)

CHART 9 *Percentage of female professional and technical workers in selected occupations, 1900 and 1950*



\* 1a. College presidents, professors, and instructors, not elsewhere classified.  
 \* 1b. Teachers, except college.

† Data not available in 1900.

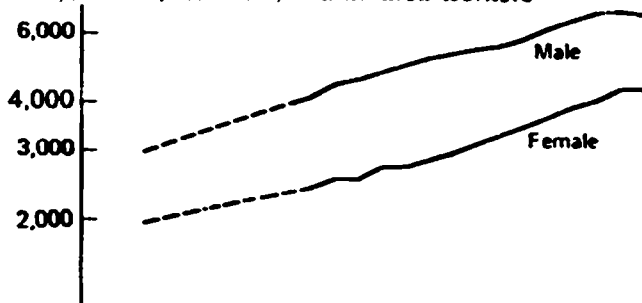
SOURCES: Edwards (19, pp. 120, 128, and 178); and U.S. Bureau of the Census (17, Table 3).

# NUMBER OF EMPLOYED

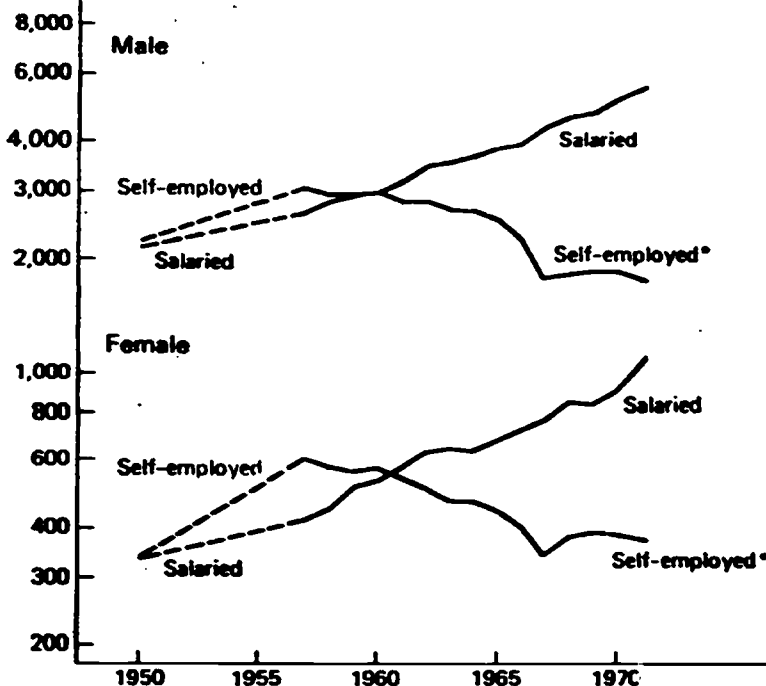
# SSIONAL AND MANAGERIAL WORKERS, BY SEX (1950 - 1971)

CHART 4 Number of employed professional and managerial workers, by sex: 1950 and 1957 to 1971 (logarithmic scale, in thousands)

## Professional, technical, and kindred workers



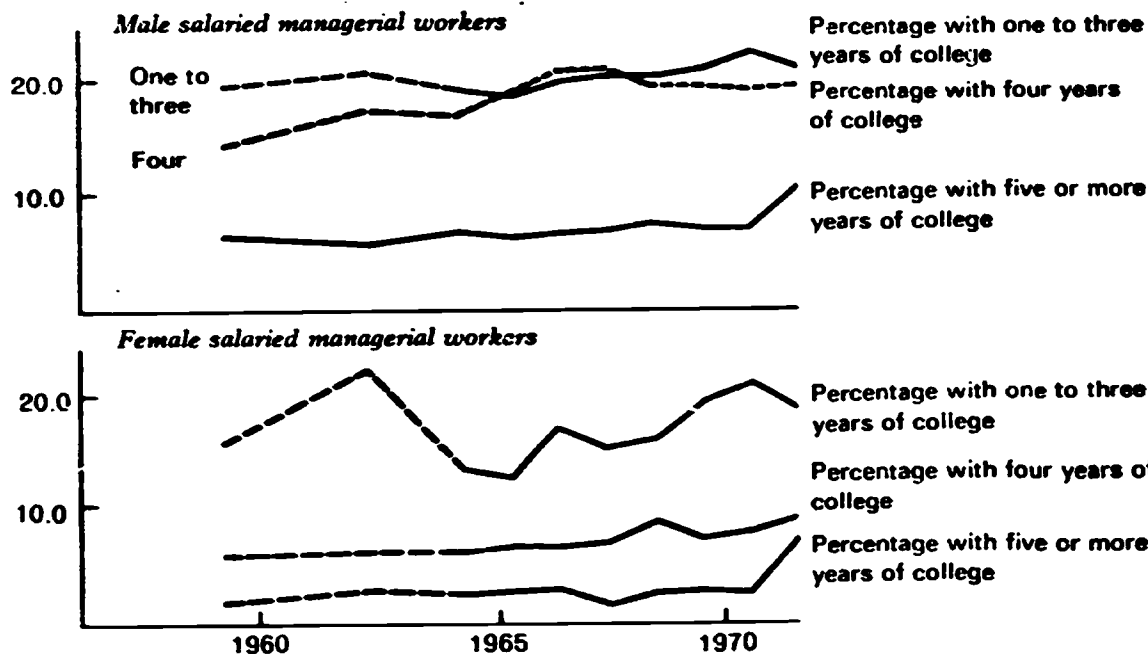
## Managerial workers



\* A change in classification in 1967 shifted about 750,000 self-employed managerial workers to the salaried managerial category.

SOURCES: U.S. Bureau of the Census (17, Table 128); U.S. Department of Labor (2, p. 171); and U.S. Bureau of Labor Statistics (18).

# **SALARIED MANAGERIAL WORKERS, BY YEARS OF COLLEGE AND SEX (1959-1971)**

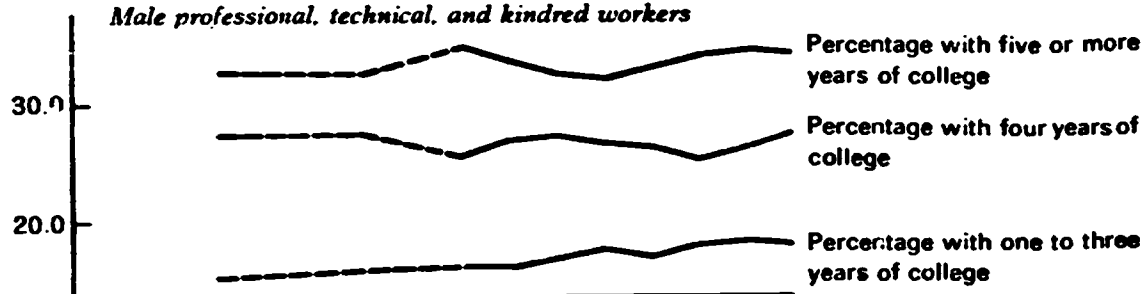


SOURCE: U.S. Bureau of Labor Statistics (18).

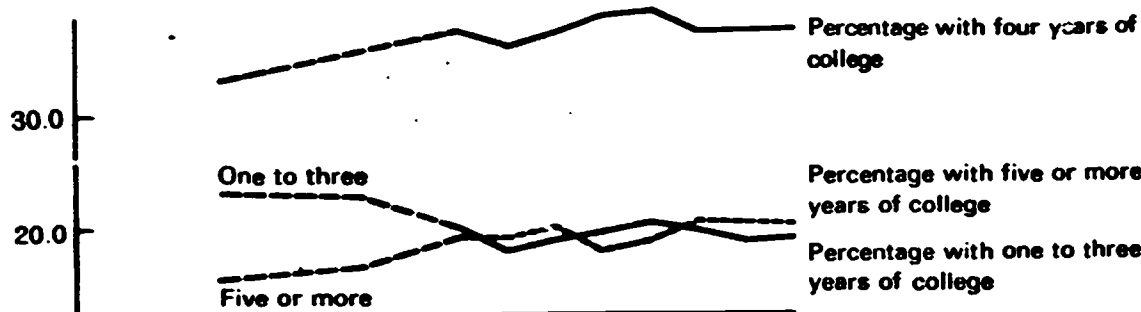
# PROFESSIONAL WORKERS, BY YEARS OF COLLEGE AND SEX (1959-1971)

8.3

## Male professional, technical, and kindred workers



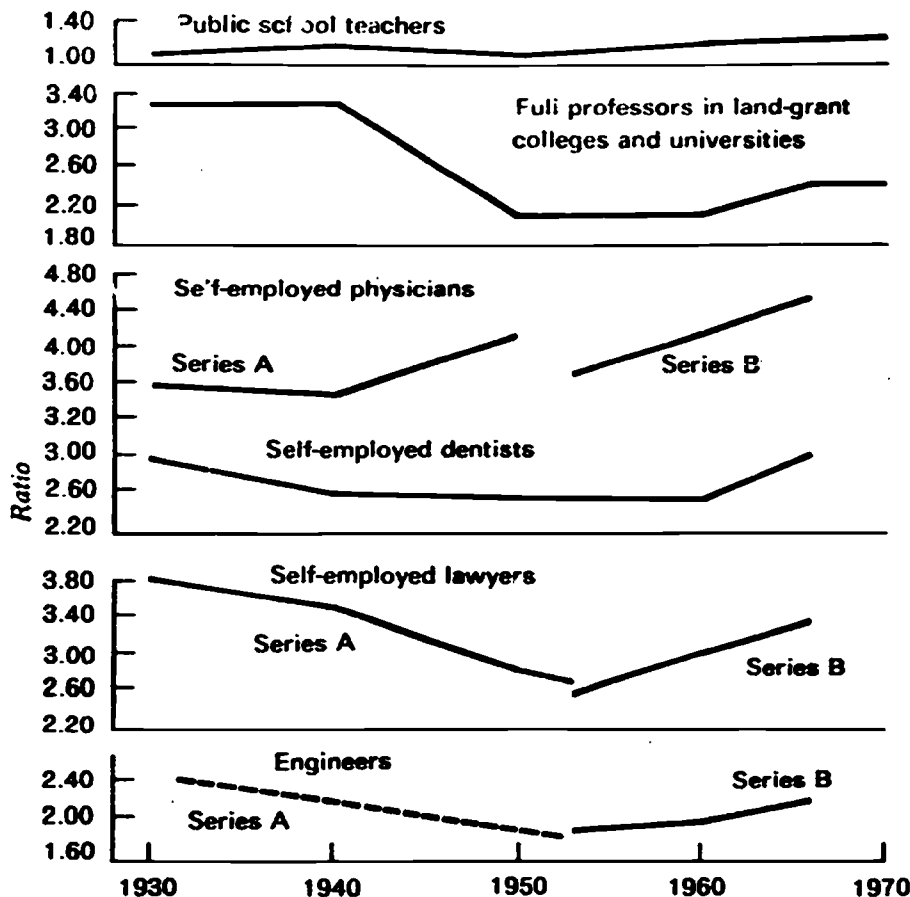
## Female professional, technical, and kindred workers



# RATIOS OF AVERAGE ANNUAL EARNINGS OF SELECTED PROFESSIONAL WORKERS (1929-1970)

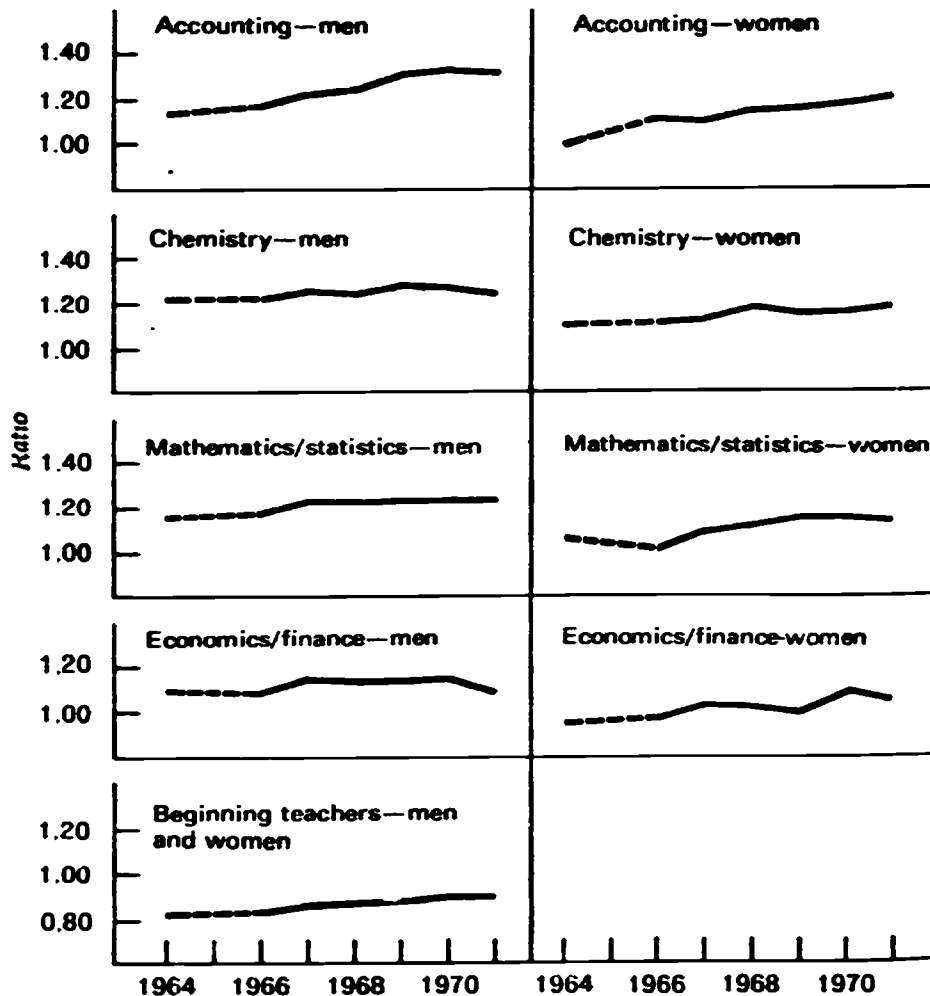
8.3

**CHART 13** Ratios of average annual earnings of selected professional workers to average annual earnings per full-time-equivalent employee in all industries, selected years, 1929-1970



SOURCE: Gordon (46). In the cases of physicians, lawyers, and engineers, series A and B are not precisely comparable.

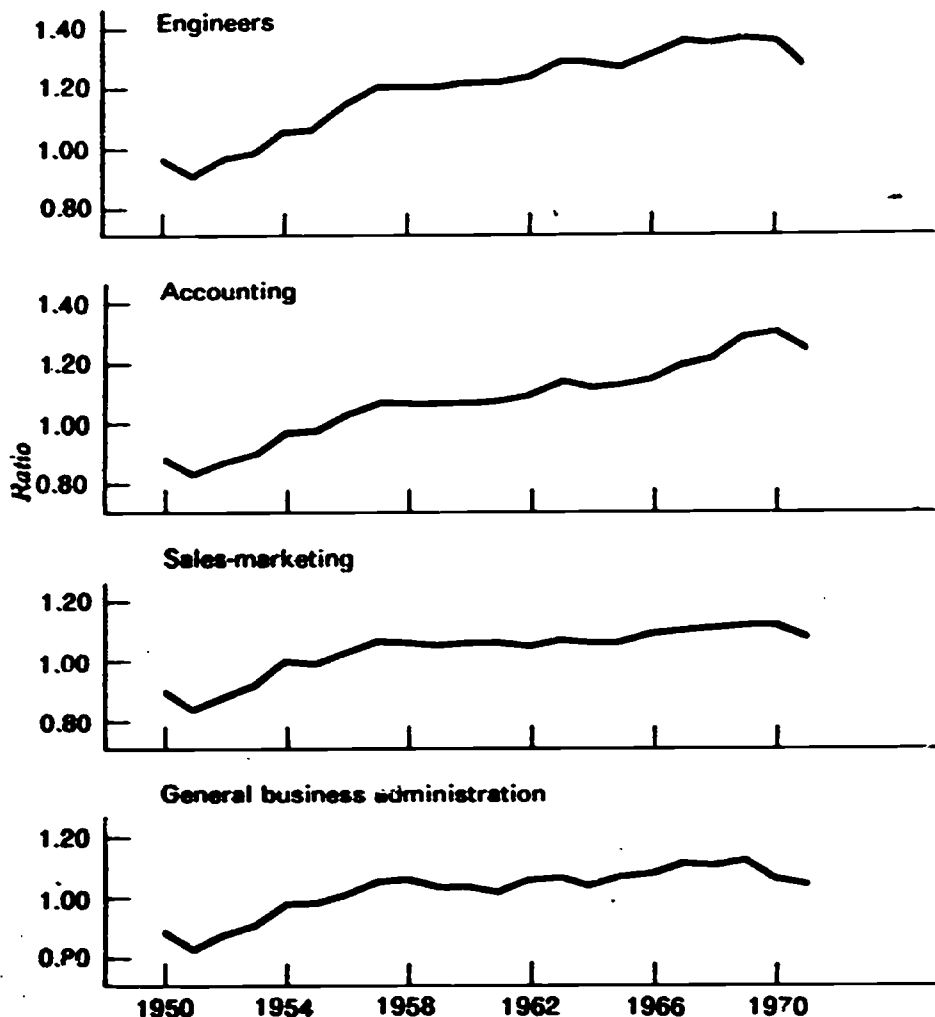
**CHART 12** *Ratio of average starting salary for college graduates with bachelor's degrees in selected occupations to average compensation of employees in all industries, 1964 to 1971*



SOURCES: Endicott (40); National Education Association (41, p. 72); and *Economic Report of the President* (22, pp. 209 and 226).

# RATIO OF AVERAGE STARTING SALARY FOR MALE COLLEGE GRADUATES (1950-1971) 8.3

CHART 11 *Ratio of average starting salary for male college graduates in selected occupations to average compensation of employees in all industries, 1950 to 1971*



NOTE: Data relate to men with bachelor's degrees.  
 SOURCES: Endicott (40); National Education Association (41, p. 72); and Economic Report of the President (22, pp. 209 and 226).

AID TO STUDENTS - NATIONAL ENTITLEMENT

The Carnegie Commission recommends that "the aid to students should take the form of a national entitlement."

#10 (3)



# FINANCIAL AID - REMOVING THE ECONOMIC ACCESS BARRIERS

As a goal for 1976, the Carnegie Commission recommends "That all students with the motivation and ability to gain access to and complete higher education should receive the financial aid they need to do so; that economic barriers to college and university access be removed."

cf. specific program recommended in #1 (Quality and Equality)

#2 (3)

FINANCING STUDENT COSTS

The Carnegie Commission recommends the "financing of student costs where there is inability to meet them from personal resources."

Cf. 8.4 "EDUCATIONAL ENDOWMENT " - #22 (37) - C. #1429 and  
- #21 (6) - C. #1430

#22 (36)

Type of institution and source	Men	Women	Total
Total, all institutions	60.6	74.5	66.6
Support from your parents	7.6	10.8	9.0
Support from your spouse	10.6	9.3	10.1
Federal scholarship, fellowship, or grant	13.8	17.7	15.5
State scholarship, fellowship, or grant	15.5	17.3	16.3
Other scholarship, fellowship, or grant	18.7	19.3	19.0
Federal loan	12.9	13.3	13.0
Other loan	11.3	14.2	12.5
College work-study program	0.6	0.3	0.5
Research assistantship	0.9	0.7	0.8
Teaching assistantship	61.4	49.3	56.1
Employment	35.4	30.1	33.1
Other sources (savings, etc.)			
Two-year colleges			
Support from your parents	46.4	59.3	51.6
Support from your spouse	8.5	11.5	9.8
Federal scholarship, fellowship, or grant	7.5	6.0	6.9
State scholarship, fellowship, or grant	10.3	12.2	11.0
Other scholarship, fellowship, or grant	9.5	13.0	10.9
Federal loan	15.7	13.5	14.8
Other loan	12.3	12.1	12.2
College work-study program	7.5	11.3	9.0
Research assistantship	0.1	0.1	0.1
Teaching assistantship	0.8	0.5	0.7
Employment	61.7	47.0	56.0
Other sources (savings, etc.)	35.4	30.7	33.6

Type of institution and source	Men	Women	Total
<i>Four-year colleges</i>			
Support from your parents	65.7	78.6	71.9
Support from your spouse	6.1	10.0	7.9
Federal scholarship, fellowship, or grant	12.1	11.2	11.7
State scholarship, fellowship, or grant	19.1	24.2	21.5
Other scholarship, fellowship, or grant	18.3	19.0	18.7
Federal loan	20.8	22.2	21.5
Other loan	15.9	16.4	16.2
College work-study program	15.2	17.1	16.1
Research assistantship	0.6	0.3	0.4
Teaching assistantship	1.0	0.9	0.9
Employment	58.7	48.8	54.0
Other sources (savings, etc.)	33.8	29.3	31.6
<i>Universities</i>			
Support from your parents	69.5	82.6	74.8
Support from your spouse	8.5	11.4	9.7
Federal scholarship, fellowship or grant	12.1	9.5	11.0
State scholarship, fellowship or grant	10.8	12.3	11.4
Other scholarship, fellowship or grant	18.8	18.7	18.8
Federal loan	19.4	20.3	19.8
Other loan	9.7	9.1	9.4
College work-study program	10.5	12.2	11.2
Research assistantship	1.1	0.6	0.9
Teaching assistantship	1.0	0.4	0.8
Employment	64.3	52.3	59.4
Other sources (savings, etc.)	37.3	30.8	34.7

Source: Bayer, Royer, and Webb (1973, p. 21).

- 1405 -

8.4

STATE AND LOCAL FUND SOURCES

cf. 3.15 STATE AND LOCAL FUND SOURCES - #R37 (84) - c. #529.

DIRECT AID TO STUDENTS

"The trend in the last quarter of the twentieth century, however, is likely to be in the direction of supporting students and giving them greater latitude of choice as to where and in what form they pursue postsecondary education."

#21 (49)

INCREASED TUITION AND STUDENT AID

Cf. 3.1 OFFSETTING INCREASED TUITION BY ADEQUATE STUDENT AID-  
#18 (10)- C. #361.

# SUMMARY TABLE OF STUDENT AID AND RELATED GRANTS TO INSTITUTIONS

8.4

Summary table of student aid and related grants to institutions	Student from low-income family	Student from middle-income family	Student from high income family	Institutions (2007)
First four years of postsecondary education	Basic \$ 0 grant of \$1 000 + \$250 supplementary matching U.S. + \$250 in nonfederal grants for a total of \$1 500	Partially eligible depending on the family circumstances	Not eligible	\$500 cost-of-education supplement
	\$1 000 work-study payments	Partially eligible depending on the family circumstances	Not eligible	No cost-of-education supplement
	Eligible for \$2 500 in loans per year total of \$6 000 with half of interest accrued during education cancelled	Eligible for \$2 500 in loans per year total of \$6 000 with the possibility of cancellation of some portion less than one-half of interest accrued during education	Eligible for \$2 500 in loans per year total of \$6 000	No cost-of-education supplement
Graduate education	\$2 000 first and second year \$2 000 third year if in a professional program requiring three years	Partially eligible depending on the family circumstances	Not eligible	\$1 500 cost-of-education supplement
	Eligible for \$2 500 in loans per year total of \$10 000 with half of interest accrued during education cancelled	Eligible for \$2 500 in loans per year total of \$10 000 with the possibility of cancellation of some portion less than one-half of interest accrued during education	Eligible for \$2 500 in loans per year total of \$10 000	No cost-of-education supplement
	Doctoral candidates: top half in ability, eligible for \$3 000 fellowship for two years work toward doctorate after advancement to candidacy. Also eligible for loans within maximums for any graduate student			\$3 500 cost-of-education supplement

\*Amounts are maximum eligibilities permitted for students showing full need

NOTE: Total of all grants, payments, and loans would not be allowed to exceed actual educational expenses



# FINANCIAL AID - ALLOCATION OF STUDENT-AID FUNDS

"The Commission recommends that colleges and universities seek maximum effectiveness in the allocation of student-aid funds through limiting aid given exclusively in the form of grants to the neediest and most disadvantaged students, while providing combinations of grants, loans, and work opportunities to less needy students."

#12 (141)

1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1  
33 32 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1

- 1410 -

8.4

# FINANCIAL AID PACKAGE - FLEXIBILITY OF USE

The Carnegie Commission, to permit greater flexibility in the use of federal funding programs, recommends that "institutions be given authority to use up to 10 percent of any student aid allocation in one of the other federal student aid programs."

#1A (7)

LITTON 408 - MCDON

- 1411 -

8.4

IDEAL COMPREHENSIVE LOAN PROGRAM

cf. 3.13 ESSENTIAL COMPONENTS OF A COMPREHENSIVE LOAN PROGRAM -  
#1A (13)- C. #447.

GRANTS FOR STUDENTS

cf. 3.1 All subcategories for data relevant to funding or grants-in-aid. Cards #348 - 532.

GRADUATE ASSISTANTSHIPS AND FELLOWSHIPS

"There should be no discrimination on the basis of sex or marital status in appointing teaching or research assistants or in awarding fellowships. Furthermore, part-time graduate and professional students should not be barred from eligibility for fellowships.\* In addition, there should be no antinepotism rules in connection with these appointments or awards. "

\*"In most cases, the amount of the fellowship would be expected to reflect the part-time status of the student."

#20 (106)

FINANCIAL SUPPORT FOR GRADUATE STUDENTS - MARRIED

The Carnegie Commission notes that their studies have revealed that "about 24 percent of the married men and 57 percent of the married women were depending primarily on spouse's earnings."

#20 (85)



AID TO VETERANS

The Commission recommends that "the Veterans' Educational Benefit Programs be continued and that benefits under such programs be revised automatically to keep pace with rising living and educational costs."

#1A (19)



cf. 4.4 EDUCATION LEAVE PROGRAMS - #21 (95) for recommendation that postsecondary education be subsidized for the military through education leave programs. Card #1146.

FINANCIAL AID FOR TRANSFER STUDENTS

The Carnegie Commission advises that "In addition to admission policies which encourage transfer from accredited two-year institutions, there is also a need for student financial aid policies which do not discriminate against transfer students."

#3 (18)

# INCREASED STUDENT FINANCIAL SUPPORT FOR LOW-INCOME STUDENTS

The Carnegie Commission recognizes the significant effect on enrollment of "increased student grants for students from low-income families, cost-of-education supplements to institutions enrolling these students, and a liberalized student loan program."

#9 (49)

1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1  
33 32 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1

1420

8.4

FINANCIAL AID FOR LOW-INCOME AND MINORITY STUDENTS

Cf. 8.6 SERVICES FOR LOW-INCOME AND MINORITY STUDENTS - #17 (2)  
C. #1447.

5718  
23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1  
23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1  
LITTON AGS - MEMPHIS

FINANCIAL AID NEEDED BY OLDER STUDENTS

Of. 3.24 MIXING OF AGE GROUPS ON CAMPUS - #17 (21-22) C. #692 -  
for Carnegie Commission recommendation that there should be  
"more opportunities for older persons to take classes and to  
obtain needed financial support."

AID FOR PART-TIME STUDENTS

The Carnegie Commission recommends that programs of federal funding for full-time students "be adapted to provide proportional aid to part-time students."

#1 (30)

BASIC OPPORTUNITY GRANTS

9.4

The Carnegie Commission recommends that "The Basic Opportunity Grants program should be fully funded. This legislation, already on the books, is a major step in providing critically needed assistance to both students and institutions of higher education."

#18 (111)

# CEILING OF BASIC OPPORTUNITY GRANTS

The Commission recommends that "...in the future the \$1,400 ceiling on Basic Opportunity Grants be raised gradually in line with increases in educational and subsistence costs."

#18 (111)



INCREASING LIMITATION FOR BASIC OPPORTUNITY GRANTS

The Carnegie Commission recommends that "...the 50 percent of cost limitation for Basic Opportunity Grants for lower-division students should be raised, perhaps in steps, to 75 percent over the next few years."

#18 (111)

# EDUCATIONAL OPPORTUNITY GRANTS

The Commission recommends "strengthening and expanding the present program of educational opportunity grants based on need by providing:

1. That the level of funding be increased so that all college students with demonstrated need will be assured of some financial aid to meet expenses at institutions which they select
2. That grants based on need be available for a period not to exceed four years of undergraduate study and two years of study toward a graduate degree." \*

\* The Carnegie Commission does not include #2 above in the Revised Recommendations #1A

#1 (19)

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## SUPPLEMENTARY FEDERAL GRANTS WITH EDUCATIONAL OPPORTUNITY GRANTS<sup>8,4</sup>

The Commission recommends "that an undergraduate student holding an educational opportunity grant and receiving added grants from nonfederal sources be given a supplementary federal grant in an amount matching the nonfederal grants but not exceeding one-half of the student's original educational opportunity grant."

\*In the Revised Recommendations, the Commission stipulates "but not exceeding one-quarter of the student's original educational opportunity grant." #1A (6)

#1 (21)

NATIONAL STUDENT LOAN BANK

"To provide...(a)supplementary source of financial aid for needy students and to provide a substantial source of financial aid for middle-and higher-income students, the Commission recommends that the federal government charter a National Student Loan Bank, a nonprofit private corporation to be financed by the sale of governmentally guaranteed securities. The Bank would make loans available to postsecondary students..."

Cf. 3.13 FEDERAL CONFIDENTIAL LOAN PROGRAM - "1 (29)- C. #489 for specific details of loan amounts.

The Bank, the Commission continues, "would be self-sustaining, except for administrative costs and the cost of any cancellations of interest because of low income and of principal for any reason other than death, which would be met out of federal budget appropriations."

Cf. 3.15 NATIONAL STUDENT LOAN BANK - #18 (121) - C. # 527.

#1A (9-10)

"EDUCATIONAL ENDOWMENT"

The Carnegie Commission recommends that "there is need to move beyond this (student support program) to future consideration of a program of 'two-years-in-the-bank,' as we once called it, or an 'educational endowment,' for all persons who seek postcompulsory education to improve their paths into and within life and work. . ."

#22 (37)

# "EDUCATIONAL ENDOWMENT"

The Carnegie Commission recommends the "Long-term consideration of an 'educational endowment' or provision of 'two years in the bank,'...that will guarantee financial access to postsecondary educational opportunities to all persons at whatever stage in life they want access to them. Along with this would go consideration of educational leaves from industry and government."

#21 (6)

The Carnegie Commission reconfirms the recommendation of Less Time, More Options (#6) to provide each high school graduate with two years of post-secondary education, proposing that "Every person will have available to him, throughout his life, financial assistance for at least two years of postsecondary education. For at least part of the entitlement, there will be no restrictions as to the type of educational institution the recipient might elect to attend."

**#21 (69)**

"IN THE BANK" EDUCATIONAL DEPOSIT

The Carnegie Commission recommends that "all persons, after high school graduation, have two years of postsecondary education placed 'in the bank' for them to be withdrawn at any time in their lives when it best suits them."

#6 (20)



FINANCIAL BENEFITS TOWARD EDUCATION FOR PUBLIC SERVICE

"Local, state, and national governments will provide opportunities for persons to render public service through well-organized programs, and those who engage in national service will be able to earn financial benefits toward education in addition to their regular inservice compensation."

#21 (96)

# FINANCIAL AID + EXPERIENCE IN CITY GOVERNMENT = URBAN CORPS

The Carnegie Commission affirms that "the Urban Corps provides an excellent mechanism for giving opportunities to students to have experience in city government and recommend that cities that do not now have such programs seriously consider developing them.

#14 (72)

1435 -

8.4

STUDENT AID - INFLUENCE OF JOB MARKET

CE. 3.24 ENROLLMENT - INFLUENCE OF JOB MARKET - #15 (21) for recommendation that institutions not restrict opportunities to receive student aid because of less favorable trends in the job market for college graduates. Card #718.

FINANCIAL AID

cf. 8.5 AUXILIARY STUDENT SERVICES - #12 (140) for recommendation that assistance through student aid or jobs be provided for students who are unable to afford charges for services on a full-cost basis. Card.#1442.

# WORK-STUDY

The Carnegie Commission considers work-study "one of the most valuable forms of student aid and ought to be incorporated in any federal program to assist students."

#1 (23)

WORK-STUDY PROGRAM

The Commission recommends "continuation and expansion of the work-study program with federal funding sufficient to enable those undergraduate students who meet, in general terms, the federal need criteria to earn up to \$1,000 during the academic year, working not more than the equivalent of two days per week. Off-campus assignments of educational importance, such as tutorial work, should be encouraged."

#1A(5)

PART-TIME EMPLOYMENT - FEDERAL FUNDING

The Commission recommends that "federal funds be provided to finance institutionally administered part-time employment for undergraduate students. Institutions should use these funds to enable students, who meet in general terms the federal need criteria, to earn up to \$500 per year. Off-campus assignments of educational importance, such as tutorial work, should be encouraged."

#1 (23)

INNOVATIONS IN STUDENT AID

cf. 8.8 FEDERALLY SPONSORED PROGRAMS OF FINANCIAL AID - #21 (59-66) -  
C. #1456.



### CHILD-CARE SERVICES

"Colleges and universities should be responsive to campus groups seeking to develop child-care services. . . (but) we believe, consistent with our general view that an academic institution should not assume functions that are not central to its main purposes, that it will usually be preferable to seek an arrangement under which the child-care services will be provided under the auspices of a separate board of directors and not as a direct function of the academic institution. . . Subsidies to meet the needs of low-income student-parents should be sought from extra-mural public and private sources and should not normally be sought from the academic institution's regular budget."

#20 (163)

### AUXILIARY STUDENT SERVICES

"The Commission recommends that all colleges and universities seek maximum economies in the operation of auxiliary services. These may be achieved through (1) contracting out, especially in small colleges and universities, (2) the development of student cooperative housing, and (3) employing students in food and room service activities. Students should be charged for services on a full-cost basis, and those who cannot afford these charges should be assisted through student aid or jobs."

#12 (140)

1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1 7 4 2 1  
33 32 31 30 29 28 27 26 25 24 23 22 21 20 19 18 17 16 15 14 13 12 11 10 9 8 7 6 5 4 3 2 1

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8.51

INSTITUTIONAL PARTICIPATION IN HOUSING WITHIN COMMUNITY

Cf. 1.1 CAMPUS PARTICIPATION IN URBAN-RENEWAL - #14 (84) -  
C. #65.

- 1444 -

8.6

MEETING NEEDS OF SPECIAL STUDENTS

Cf. 3.24 All headings - for information relative to admission and retention of special students - C. #809, #810, #813 - #818, #851.

8.6

CENTER TO HANDLE PROBLEMS OF WOMEN

Cf. 4.3 NEED FOR SEPARATE CONTINUING EDUCATION CENTER FOR WOMEN? - #20 (158) - C. # 1061 for Commission's question relating to need for separate center to advise women in continuing education in the future.

SPECIAL SERVICES - DISADVANTAGED STUDENTS

8.6

Low-income and educationally disadvantaged students  
require substantially greater student services:

- \* tutorial programs
- \* financial aid counseling
- \* special educational and vocational services
- \* free health services
- \* day-care services for children
- \* legal aid

#14 (46.)

## SERVICES FOR LOW-INCOME AND MINORITY STUDENTS

The Carnegie Commission recommends that higher education should make "A determined effort to provide places in college for young persons who wish to attend from low-income and minority groups, with adequate financial assistance for their support and with respect for their cultural backgrounds."

#17 (2)





COMMUTER SERVICES

The Carnegie Commission recommends that "commuter institutions make available lockers, study and lounge areas, and other physical facilities designed to meet the special needs of commuters, and that scheduling of educational programs and activities be undertaken with the commuter in mind."

#14 (54)

URBAN SETTING ADJUSTMENTS - PART-TIME STUDENTS

The Carnegie Commission recommends that "Financial-aid policies, and scheduling of classes and library and student service hours should be scrutinized to be certain they are not established for a traditional full-time student rather than for part-time students."

#14 (46)

**"The Commission recommends that colleges and universities review their student services, with particular reference to reducing the extent of subsidization of these services where it seems justified."**

cf. 8.3 NEED FOR EXPANSION IN COUNSELING SERVICES - #12 (142)- C. #1325.  
exception to above observation

**#12 (142)**

- 1452 -

8.7

STUDENT SERVICE EXPENDITURES

cf. 9.1 EXPENDITURES: ADMINISTRATIVE/GENERAL INSTITUTIONAL/  
STUDENT SERVICE - #12 (167), (172) - C. #1478 and #1479.

# NEW GUIDANCE SYSTEMS

The Carnegie Commission suggests that "A hallmark of a new guidance system should be that the one-to-one relationship between student and counselor is not the sole source of information for the student. Computer programs, community resource people, written materials, and self-administered assessment batteries should also be available."

#19 (4)

ADVISING - NEEDED IMPROVEMENTS

Of. 8.3 ADVISING - NEEDED IMPROVEMENTS - #13 (55) for specific innovations suggested by the Carnegie Commission to improve the quality of advising. Note especially the recommendation to designate an administrator in charge of managing the quality of counseling on campus. Card #1323.

INNOVATIVE COUNSELING - "FOUNDATION YEAR"

Cf. 8.3 C. # 1333 and #1334 for information  
relative to suggested adoption of a "foundation year" in which  
students be given intensive counseling.

# FEDERALLY SPONSORED PROGRAMS OF FINANCIAL AID

The Carnegie Commission reports that of the variety of proposals for federally sponsored programs of financial aid for further education four plans demonstrate "possible approaches to the problem of providing maintenance of income during periods of educational leave." These proposals include:

- 1.) Youth Endowment Program
  - a. proposed by Tobin and Ross
  - b. designed primarily for young adults (up to age 28)
  - c. aimed primarily at meeting tuition costs
- 2.) Human Investment Fund (expanded Tobin-Ross proposal)
  - a. proposed by Dresch
  - b. designed for use throughout lifetime but intention of use must be declared before age 25
- 3.) Integrated System (European plan)
  - a. proposed by Rehn
  - b. designed to integrate financing of pensions, vacations, and off-the-job studies
  - c. payments for system to be assumed by employers in behalf of employees
- 4.) Personal Social Insurance (Rehn's plan adapted for America)
  - a. designed for use by 18 year olds and adults
  - b. payments (shared by employer and employee) similar to Social Security payments

cf. #21 (59-66) for additional details on these programs

#21 (59-66)



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8.8

"EDUCATIONAL ENDOWMENT"

Cf. 8.4 C. # 1429 and # 1430  
recommendation

for innovative

## ESTIMATED NUMBER OF INSTITUTIONS OF HIGHER ED. BY FINANCIAL STATUS

TABLE 1 Estimated number, and enrollment, of institutions of higher education, by financial status  
United States, spring 1970

Institutions by control and type	All institutions	Not financially troubled	Financially troubled	Increase or decrease
<b>Total institutions*</b>				
Number	2 340	905	1 000	42%
Percent	100	39	42	
<b>Total enrollment</b>				
Number (in thousands)	7 205	1 570	3 940	1 755
Percent	100	22	54	24
<b>Public institutions</b>				
Number	1 170	580	500	9%
Percent	100	50	43	
<b>Enrollment—public</b>				
Number (in thousands)	5 300	1 330	3 150	8%
Percent	100	25	59	16
<b>Private institutions</b>				
Number	1 170	325	500	34%
Percent	100	28	42	3
<b>Enrollment—private</b>				
Number (in thousands)	1 935	240	790	9%
Percent	100	12	41	47
<b>Universities</b>				
Number	165	30	85	10%
Percent	100	19	51	30
<b>Enrollment—universities</b>				
Number (in thousands)	2 380	450	1 470	160
Percent	100	19	62	19
<b>Liberal arts colleges</b>				
Number	730	210	310	210
Percent	100	29	43	28
<b>Enrollment—liberal arts colleges</b>				
Number (in thousands)	770	170	470	100
Percent	100	22	53	15

\* Total includes comprehensive colleges and two-year colleges, but state after these types of institutions were closed since there were relatively few of these institutions in the study. It also includes all other institutions of higher education which were not included in the study. Some of these institutions were private, some were public, and some were independent.

FISCAL OPERATIONS

cf. 3.1 "SELF-RENEWAL" FUND - #12 (105) for recommendation regarding  
use of 1 to 3 percent of existing allocations.  
C. #379.

FISCAL OPERATIONS

"The Commission recommends that colleges and universities minimize cash balances held in checking accounts and make certain, especially in large institutions, that purchasing functions and inventory management are handled by persons with adequate special training."

#12 (147)

# BUDGET PROCEDURES

Cf. 3.15 INDUCING COST-SAVING CHANGE - #12 (109) for specific ways in which budgetary procedures can be used to induce cost-saving changes in the management of resources  
C. #532.

N.B. - argument against zero-based budgeting

## ENSURING BUDGETARY FLEXIBILITY

"The Commission recommends that all institutions of higher education place emphasis on policies that will ensure budgetary flexibility. Combinations of policies that will achieve this goal will vary from institution to institution but may well include elements of (1) selective cutbacks, (2) across-the-board budgetary cuts, (3) consolidation of existing programs, (4) readaptation of existing programs, (5) 'every tub on its own bottom,' and (6) central reassignment of positions vacated due to resignation, retirement, or death."

#12 (103)

**"...departments and schools should be expected to justify budgetary requests on the basis, not only of input measures (e.g., enrollment), but also on the basis of output or performance criteria."**

**#12 (109)**

# PERCENT INCREASE IN GNP AND STUDENT ED. EXPENDITURES

**TABLE 20**  
Percent increase  
in gross  
national product  
and student  
education  
expenditures in  
four-year  
institutions:  
actual and  
calculated at  
GNP growth  
rate, 1963-67

Fiscal year/ academic year A	Percent increase in GNP B	Student education expenditures (in millions)		
		Actual amount C	Calculated at GNP rate of increase D	Difference between actual and calculated amounts E
1963/1962-63		\$4,040.0		
1964/1963-64	6.7	4,600.0	\$4,310.7	\$289.3
1965/1964-65	6.5	5,210.1	4,899.0	311.0
1966/1965-66	9.2	6,115.0	5,689.3	425.7
1967/1966-67	7.1	7,015.0	6,549.2	465.8

#10 (161)



GROWTH DIFFERENCE FORMULA

**TABLE 21**  
**Growth**  
**difference**  
**formula:**  
**calculation of**  
**annual federal**  
**grant for four-**  
**year**  
**institutions,**  
**1966-68**

<i>Academic year</i>	<i>Difference between actual student education expenditures and those calculated at GNP rate of increase</i>
1963-64	\$ 289,300,000
1964-65	311,000,000
1965-66	<u>425,700,000</u>
<i>Three-year total appropriation</i>	\$1,026,000,000
<i>Annual average = annual federal formula grant for period 1966-68</i>	\$ 342,000,000

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9.1

RATE OF TUITION INCREASE

cf. 3.1 TUITION/EDUCATIONAL COSTS/DISPOSABLE INCOME - #12(144)

C. #360- chart indicates that between 1967-68 and 1969-70, tuition increases occurred at an accelerated rate

PREPARATION OF BUDGET - SEVERE CUTBACKS

cf. 2.1 REPRESENTATION ON BUDGET PREPARATION - #12 (105) for Commission recommendation that administration, faculty, and student representatives be involved when severe budget cuts must be made. C. #185

## MAJOR WAYS SUGGESTED BY COMMISSION OF "HOLDING DOWN THE BILL"

The Carnegie Commission suggests that the major ways of "holding down the bill for higher education" include:

- Withdrawal of the reluctant attenders, whom we estimated at 5 to 12 percent. Some of this apparently is happening already with the pressure of the draft on attendance removed, and for other reasons.
- Introduction of shorter time options for students. This would save time for the students and expenditures for higher education, and reduce the duplication of about two-thirds of a year's work between high school and college with its impacts on the deteriorated morale of students—they get "turned off" by the waste and the boredom.
- Augmentation of research expenditures at about the average annual rate of increase in the GNP rather than at a faster rate.
- Great caution in the introduction of new Ph.D. programs.
- Careful consideration of shifting to year-round operation where it is determined that this will achieve savings in operating and capital costs combined.
- Elimination of unnecessary duplication of effort within and among institutions.
- General attention to costs in all categories.

## OPERATING COSTS - SAVINGS THROUGH INSTRUCTIONAL INNOVATIONS

The Carnegie Commission estimates that "a savings of 10 to 15 percent in institutional operating expenditures by 1980, or \$3 to \$5 billion a year"(offset in part by cost of financial aid to older persons who return for periods of formal education) would be realized if the time spent on obtaining the B.A. degree and the Ph.D. and M.D. were reduced by approximately one-fourth.

#6 (23)

- 1470 -

9.1

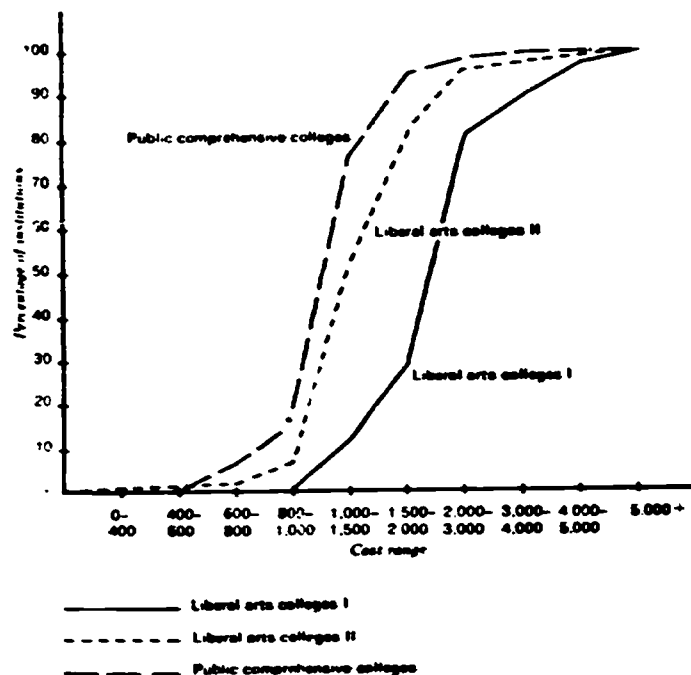
# TYPICAL COSTS FOR FTE PARTICIPATION IN EACH PROGRAM OF ALTERNATE LIFE STYLES

Program and degree of participation. 1970-71 dollars	Average instructional costs (1)	Estimated forgone earnings (2)	Estimated economic cost:	
			Total (1) & (2) (3)	Per week (3) ÷ weeks (4)
1 FTE year (36-40 weeks) of college	\$2,400	\$3,400	\$5,800	\$145-161
16 weeks of initial and advanced military training	2,000	2,700	4,700	294
1 year (50 weeks) of registered apprenticeship	400	150	550	11
1 FTE year (36-40 weeks) of public postsecondary nondegree studies (in community colleges and area vocational-technical schools)	1,800	1,900	3,700	92-102
1 FTE year (36-40 weeks) of study in a private specialty school	1,600	1,200	2,800	70-77

# CUMULATIVE PERCENTAGE OF COLLEGES AT VARIOUS COST RANGES

9.1

CHART 2 Cumulative percentage of public comprehensive colleges, and selective and less-selective liberal arts colleges at various cost ranges



# CURRENT FUND EXPENDITURES (1970-71)

9.1

TABLE 3 Current fund expenditures,\* by institutions of higher education, by type and control, estimated 1970-71 (in billions of current dollars)

TYPE OF INSTITUTION	PUBLIC		PRIVATE		ALL INSTITUTIONS	
	AMOUNT	PERCENT OF TOTAL	AMOUNT	PERCENT OF TOTAL	AMOUNT	PERCENT OF TOTAL
UNIVERSITIES	9.7	63.0	4.8	54.5	14.5	59.9
OTHER FOUR-YEAR INSTITUTIONS	3.6	23.4	3.8	43.2	7.4	30.6
TWO-YEAR INSTITUTIONS	2.1	13.6	0.2	2.3	2.3	9.5
TOTAL	15.4	100.0	8.8	100.0	24.2	100.0

\* Includes all current fund expenditures, except current funds expended for physical plant assets.

SOURCES: USOE/NCES, *Projections of Educational Statistics to 1980-81*, U.S. Government Printing Office, Washington, D.C., 1972, pp. 36-97; composition was estimated by projecting expenditures forward for three years on the basis of (1) changes in total enrollment by type (see USOE/NCES, *Opening Fall Enrollment in Higher Education 1970. Report on Preliminary Survey, 1970*, p. 10, and *Opening Fall Enrollment in Higher Education 1967*, p. 7), and (2) cumulations of annual average rates of increases in educational costs per credit hour for the three-year period, based on 1953-54 to 1966-67 experience (see *The More Effective Use of Resources*, p. 34). These independent projections by type were then adjusted to the estimated figures for public, private, and total.)



ESTIMATED ECONOMIC COSTS OF HIGHER EDUCATION

cf. 3.24 ESTIMATED PROGRAM ENROLLMENTS AND COSTS - #21 (38-39) - C. #764.

#21 (42)

CHART 6 Estimated cost of instruction per enrollee manhour in 1970, by source of postsecondary education

Source	Dollars per manhour			
	\$0	\$5.00	\$10.00	\$15.00
Correspondence schools				\$14
Correspondence (armed forces)			\$10.00	
Prisons				\$6.00
National manpower programs				\$6.00
Other organized instruction (employers and associations)				\$6.00
Tutors				\$5.00
Agricultural extension				\$4.44
Colleges and universities (full-time degree credit)				\$4.13
Average, all postsecondary education				\$4.00
Job orientation				\$4.00
Other organized instruction (armed forces)				\$3.50
Unions				\$3.00
Other public postsecondary programs				\$3.00
Colleges and universities (part-time and non-degree-credit)				\$3.00
Private specialty schools				\$3.00
Apprenticeships (registered)				\$3.00
Apprenticeships (nonregistered)				\$2.50
Elementary and secondary schools				\$2.50
Armed forces initial training				\$1.50
Safety instruction				\$1.50

SOURCE: Table 6.

ESTIMATED COST OF INSTRUCTION

CHART 7 Estimated economic cost, including forgone earnings, per enrollee manhour, 1970, by source of postsecondary education

(3) Source	Dollars per manhour			
	\$0.	\$5.00	\$10.00	\$15.00
(4) Correspondence schools				\$16.61
Correspondence schools (armed forces)				\$11.54
Other organized instruction (armed forces)				\$10.96
Colleges and universities (full-time degree-credit)				\$10.93
Other organized instruction (employers and associations)			\$10.78	
Average, all postsecondary education			\$9.12	
Tutors			\$7.83	
Other public postsecondary programs			\$7.06	
Government manpower programs			\$6.92	
Colleges and universities (part-time and non-degree credit)			\$6.53	
Job orientation			\$6.21	
Armed forces (initial training)			\$6.21	
Prisons			\$6.13	
Unions			\$6.00	
Agricultural extension and other government programs			\$5.80	
Private specialty schools			\$5.61	
Apprenticeships (registered)			\$3.83	
Apprenticeships (nonregistered)			\$3.80	
Other organized programs			\$3.79	
Elementary and secondary schools			\$3.69	
Safety instruction			\$2.78	

☐ Average all post-secondary education  
☐ Higher education

ESTIMATED ECONOMIC COST OF INSTRUCTION

**EDUCATIONAL EXPENDITURES**

**TABLE C-7**  
Educational  
expenditures\*  
per FTE  
student  
(weighted and  
unweighted†) in  
comprehensive  
universities  
and colleges,  
by FTE  
enrollment,  
public and  
private,  
1967-68

FTE enrollment	Public		Private	
	Unweighted	Weighted	Unweighted	Weighted
0-599	2,576‡	2,576‡		
600-999	1,500	1,388	2,273‡	2,096‡
1,000-1,249	1,393	1,381	1,577	1,405
1,250-1,499	1,229	1,184	1,478	1,412
1,500-1,999	1,264	1,215	1,585	1,438
2,000-2,499	1,092	1,064	1,469	1,337
2,500-2,999	1,163	1,112	1,501	1,405
3,000-3,999	1,322	1,198	1,652	1,376
4,000-4,999	1,165	1,067	1,238	1,124
5,000-7,499	1,249	1,120		
7,500-9,999			1,464	1,197
10,000-14,999	1,214	1,092		
15,000-19,999	1,416	1,088		
	1,536‡	1,208‡		
Mean	1,282	1,187	1,540	1,386
Number of institutions reporting	242		120	

\* Includes educational and general expenditures minus organized (sponsored and other separately budgeted) research.

† Unweighted averages represent educational expenditures per FTE student; weighted averages represent educational expenditures divided by  $3x + y$ , where  $x$  = FTE graduate enrollment, and  $y$  = FTE undergraduate enrollment.

‡ Based on fewer than five cases.

SOURCE: Adapted from U.S. Office of Education data (Higher Education General Information Survey) by Carnegie Commission staff.

#12 (170)

- 1477 -

9.1

AVERAGE COST PER FTE STUDENT

Of. 3.1 AVERAGE COST AND GRANT PER FTE STUDENT - #10 (68-69).  
C. #374.

**EXPENDITURES:**  
**ADMINISTRATIVE/GENERAL INSTITUTIONAL/STUDENT SERVICES**

**TABLE C-9**  
**General**  
**administrative**  
**and general**  
**institutional**  
**expenditures**  
**plus student**  
**services**  
**expenses, per**  
**FTE student**  
**(weighted and**  
**unweighted\*) in**  
**comprehensive**  
**universities and**  
**colleges, by**  
**FTE enrollment,**  
**public and**  
**private, 1967-68**

FTE enrollment	Public		Private	
	Unweighted	Weighted	Unweighted	Weighted
0-599	588†	588†		
600-999	247	227	614†	562†
1,000-1,249	225	224	367	329
1,250-1,499	222	212	427	405
1,500-1,999	203	193	429	394
2,000-2,499	187	182	371	337
2,500-2,999	186	178	406	382
3,000-3,999	188	169	387	318
4,000-4,999	158	145	324	292
5,000-7,499	182	164		
7,500-9,999			304	247
10,000-14,999	183	165		
15,000-19,999	188	147		
20,000-24,999	166†	131†		
Mean	199	135	398	360
Number of institutions reporting	242		120	

\* Unweighted averages represent expenditures per FTE student; weighted averages represent expenditures divided by  $3x + y$ , where  $x$  = FTE graduate enrollment, and  $y$  = FTE undergraduate enrollment.

† Based on fewer than five cases.

SOURCE: Adapted from U.S. Office of Education data (Higher Education General Information Survey) by Carnegie Commission staff.

**EXPENDITURES:**  
**ADMINISTRATIVE/GENERAL INSTITUTIONAL/STUDENT SERVICE**

**TABLE C-3**  
**General administrative and general institutional expenditures, plus student services expenses, per FTE student (weighted and unweighted\*) in research and doctoral-granting universities, by FTE enrollment, public and private, 1967-68**

FTE enrollment	Public		Private	
	Unweighted	Weighted	Unweighted	Weighted
0-2,999			1,169†	746‡
3,000-4,999			654	449
5,000-7,499			646	424
7,500-9,999			443	322
10,000-14,999			506†	332†
15,000 and over			466†	283†
Mean	267	214	658	438
Number of institutions reporting	44		42	

\* Unweighted averages represent expenditures per FTE student; weighted averages represent expenditures divided by  $3x + y$ , where  $x$  = FTE graduate enrollment, and  $y$  = FTE undergraduate enrollment.

† Based on fewer than five cases. Detailed data for public universities are not presented because of the unavailability of data for many multicampus institutions.

‡ Excludes two institutions with unusually high expenditures and small student bodies.

SOURCE: Adapted from U.S. Office of Education data (Higher Education General Information survey) by Carnegie Commission staff.

LIBRARY EXPENSES

TABLE C-11  
Library  
expenses per  
FTE student  
(weighted and  
unweighted\*) in  
comprehensive  
universities and  
colleges, by  
FTE enrollment,  
public and  
private, 1967-68

FTE enrollment	Public		Private	
	Unweighted	Weighted	Unweighted	Weighted
0-599	360†	360†		
600-999	108	97	109†	99†
1,000-1,249	101	100	83	75
1,250-1,499	84	81	74	70
1,500-1,999	84	81	81	74
2,000-2,499	65	63	82	74
2,500-2,999	75	72	70	65
3,000-3,999	82	74	100	82
4,000-4,999	66	60	70	64
5,000-7,499	64	57		
5,000-9,999			74	60
7,500-9,999	72	65		
10,000-14,999	73	56		
15,000-19,999	90†	70†		
Mean	82	76	81	73
Number of institutions reporting	242		120	

\* Unweighted averages represent expenditures per FTE student; weighted averages represent expenditures divided by  $3x + y$ , where  $x$  = FTE graduate enrollment, and  $y$  = FTE undergraduate enrollment.

† Based on fewer than five cases.

SOURCE: Adapted from U.S. Office of Education data (Higher Education, General Information Survey) by Carnegie Commission staff.



# LIBRARY EXPENSES

**TABLE C-5**  
*Library expenses per FTE student (weighted and unweighted\*) in research and doctoral-granting universities, by FTE enrollment, public and private, 1967-68*

FTE enrollment	Public		Private	
	Unweighted	Weighted	Unweighted	Weighted
0-2,999			236†	160†
3,000-4,999			198	136
5,000-7,499			158	105
7,500-9,999			126	92
10,000-14,999			347‡	214‡
15,000 and over			105‡	64‡
Mean	103	82	188	128
Number of institutions reporting	44		42	

\* Unweighted averages represent expenditures per FTE student; weighted averages represent expenditures divided by  $3x + y$ , where  $x$  = FTE graduate enrollment, and  $y$  = FTE undergraduate enrollment.

† Excludes two institutions with unusually high expenditures and small student bodies.

‡ Based on fewer than five cases. Detailed data for public universities are not presented because of the unavailability of data for many multicampus institutions.

SOURCE: Adapted from U.S. Office of Education data (Higher Education General Information Survey) by Carnegie Commission staff.

EDUCATIONAL AND GENERAL EXPENDITURES

**TABLE C-1**  
**Educational**  
**expenditures\***  
**per FTE student**  
**(weighted and**  
**unweighted†)**  
**in research**  
**and doctoral-**  
**granting**  
**universities, by**  
**FTE enrollment,**  
**public and**  
**private, 1967-68**

FTE enrollment	Public		Private	
	Unweighted	Weighted	Unweighted	Weighted
0-2,999			4,437\$	2,851\$
3,000-4,999			3,814	2,624
5,000-7,499			3,882	2,605
7,500-9,999			2,789	2,019
10,000-14,999			3,694‡	2,394‡
15,000 and over			3,948‡	2,363‡
Mean	2,292	1,822	3,722	2,495
Number of institutions reporting	44		42	

\* Includes educational and general expenditures minus organized (sponsored and other separately budgeted) research.

† Unweighted averages represent educational expenditures per FTE student; weighted averages represent educational expenditures divided by  $3x + y$ , where  $x$  = FTE graduate enrollment, and  $y$  = FTE undergraduate enrollment.

‡ Based on fewer than five cases. Detailed data for public universities are not presented because of the unavailability of data for many multicampus institutions.

§ Excludes two institutions with unusually high expenditures and small student bodies.

SOURCE: Adapted from U.S. Office of Education data (Higher Education General Informant Survey) by Carnegie Commission staff.

#12 (165)

# INSTRUCTIONAL AND DEPARTMENTAL RESEARCH EXPENDITURES

**TABLE C-8**  
Instructional and  
departmental  
research  
expenditures per  
FTE student  
(weighted and  
unweighted\*) in  
comprehensive  
universities and  
colleges, by  
FTE enrollment,  
public and  
private, 1967-68

FTE enrollment	Public		Private	
	Unweighted	Weighted	Unweighted	Weighted
0-599	734†	734†		
600-999	808	750	995†	922†
1,000-1,249	748	742	807	732
1,250-1,499	664	643	667	638
1,500-1,999	678	655	747	681
2,000-2,499	603	587	726	663
2,500-2,999	663	633	731	684
3,000-3,999	767	696	847	706
4,000-4,999	713	653	620	563
5,000-7,499	733	657		
5,000-9,999			760	619
7,500-9,999	733	658		
10,000-14,999	844	649		
15,000-19,999	958†	749†		
Mean	721	666	746	672
Number of institutions reporting	242		120	

\* Unweighted averages represent expenditures per FTE student; weighted averages represent expenditures divided by  $3x + y$ , where  $x$  = FTE graduate enrollment, and  $y$  = FTE undergraduate enrollment.

† Based on fewer than five cases.

SOURCE: Adapted from U.S. Office of Education data (Higher Education General Information Survey) by Carnegie Commission staff.

# INSTRUCTIONAL AND DEPARTMENTAL RESEARCH EXPENDITURES

**TABLE C-20**  
*Illustrative  
 results of  
 multivariate  
 analysis—  
 instructional and  
 departmental  
 research  
 expenditures  
 per student,  
 by total  
 enrollment,  
 public  
 comprehensive  
 universities and  
 colleges,  
 1967-68*

Total enrollment	Unadjusted data	Adjusted data (derived from econometric equations)		
		Fixed means*	Variable means†	Fixed and variable means‡
0-2,499	643	1,339	689	740
2,500-3,499	598	916	666	697
3,500-5,999	647	684	698	682
6,000-7,999	632	533	628	598
8,000-11,999	577	431	591	585
12,000 and over	585	311	541	481

\* Fixed (overall) means were used for all independent variables.

† Means that varied by size class were used for all independent variables.

‡ Fixed (overall) means were used for most variables, but means that varied by size class were used for (1) student to faculty ratios, (2) number of fields, and (3) number of faculty members per field.

SOURCE: Adapted from U.S. Office of Education data (Higher Education General Information Survey) by Daryl Carlson of the Carnegie Commission staff.

# INSTRUCTIONAL AND DEPARTMENTAL RESEARCH EXPENDITURES

**TABLE C-2**  
Instructional and  
departmental  
research  
expenditures per  
FTE student  
(weighted and  
unweighted\*) in  
research  
and doctoral  
granting  
universities, by  
FTE enrollment,  
public and  
private, 1967-68

FTE enrollment	Public		Private	
	Unweighted	Weighted	Unweighted	Weighted
0-2,999			2,274‡	1,455‡
3,000-4,999			1,760	1,209
5,000-7,499			1,417	936
7,500-9,999			1,316	965
10,000-14,999			2,052†	1,310†
15,000 and over			1,528†	928†
Mean	1,134	905		
Number of institutions reporting	44		42	

\* Unweighted averages represent expenditures per FTE student; weighted averages represent expenditures divided by  $3x + y$ , where  $x$  = FTE graduate enrollment, and  $y$  = FTE undergraduate enrollment.

† Based on fewer than two cases. Detailed data for public universities are not presented because of the unavailability of data for many multicampus institutions.

‡ Excludes two institutions with unusually high expenditures and small student bodies.

SOURCE: Adapted from U.S. Office of Education data (Higher Education General Information Survey) by Carnegie Commission staff.

# PHYSICAL PLANT MAINTENANCE AND OPERATION EXPENDITURES

**TABLE C-10**  
Physical plant  
maintenance  
and operation  
expenditures per  
FTE student  
(weighted and  
unweighted\*) in  
comprehensive  
universities and  
colleges, by  
FTE enrollment,  
public and  
private, 1967-68

FTE enrollment	Public		Private	
	Unweighted	Weighted	Unweighted	Weighted
0-599	234†	234†		
600-999	219	201	263†	244†
1,000-1,249	208	207	174	159
1,250-1,499	167	160	186	179
1,500-1,999	183	175	185	169
2,000-2,499	146	143	200	182
2,500-2,999	132	126	163	152
3,000-3,999	160	145	204	168
4,000-4,999	110	158	126	115
5,000-7,499	135	121		
5,000-9,999			200	164
7,500-9,999	134	121		
10,000-14,999	132	105		
15,000-19,999	121†	96†		
Mean	155	144	187	168
Number of institutions reporting	242		120	

\* Unweighted averages represent expenditures per FTE student; weighted averages represent expenditures divided by  $3x + y$ , where  $x$  = FTE graduate enrollment, and  $y$  = FTE undergraduate enrollment.

† Based on fewer than five cases.

SOURCE: Adapted from U.S. Office of Education data (Higher Education General Information Survey) by Carnegie Commission staff.

# PHYSICAL PLANT MAINTENANCE AND OPERATION EXPENDITURES

**TABLE C-4**  
Physical plant  
maintenance  
and operation  
expenditures per  
FTE student  
(weighted and  
unweighted\*) in  
research and  
doctoral-  
granting  
universities, by  
FTE enrollment,  
public and  
private, 1967-68

FTE enrollment	Public		Private	
	Unweighted	Weighted	Unweighted	Weighted
0-2,999			572†	365†
3,000-4,999			424	286
5,000-7,499			334	209
7,500-9,999			315	230
10,000-14,999			380‡	244‡
15,000 and over			359‡	277‡
Mean	217	174	394	260
Number of institutions reporting	44		42	

\* Unweighted averages represent expenditures per FTE student; weighted averages represent expenditures divided by  $3x + y$ , where  $x$  = FTE graduate enrollment, and  $y$  = FTE undergraduate enrollment.

† Based on fewer than five cases. Detailed data for public universities are not presented because of the unavailability of data for many multicampus institutions.

‡ Excludes two institutions with unusually high expenditures and small student bodies

SOURCE: Adapted from U.S. Office of Education data (Higher Education General Information Survey) by Carnegie Commission staff.

## FUNDS FOR INNOVATIONS

**cf. 4.4 INNOVATIONS - FUNDING - #13 (65) - C. #1099.**



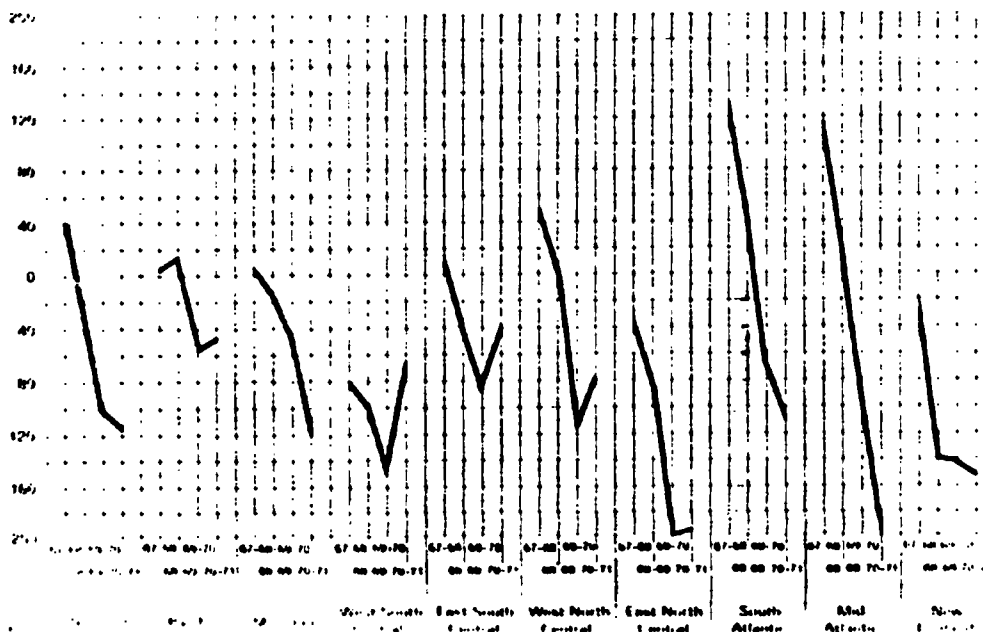
EFFECTS OF NEW INFORMATIONAL TECHNOLOGY ON FINANCING

cf. 7.3/7.4 ADVANTAGES OF TECHNOLOGY FOR FINANCING - #11(3)-#1279.  
7.3/7.4 CAPABILITIES OF TECHNOLOGY - #11 (3-4)- c. #1258.

The Carnegie Commission predicts that, as the result of the new informational technology, "Universities and colleges will be able to trade-off in their overall budget making between funds for construction of buildings for on-campus instruction and operating costs of off-campus instruction."

# NET CURRENT FUND SURPLUS OR DEFICIT (in thousands) for average institution by geographic regions

Net current fund surplus or deficit (in thousands) for the "average" institution by geographic regions



## 9.2

## EVIDENCE OF ADMINISTRATIVE INEFFICIENCY

**Cf. 3.21 COSTS - ADMINISTRATIVE INEFFICIENCY - #12 (134-135) - C. # 566.**

ADMINISTRATIVE COSTS

cf. 9.1 EXPENDITURES: ADMINISTRATIVE/GENERAL INSTITUTIONAL  
for specific details  
 C. #1478 and #1479.

# COMPUTER EXPENDITURES

"The Commission recommends that all institutions of higher education seek economies in computer expenditures by (1) contracting for computer services where this is found to be advantageous, (2) charging the full costs of computer services used in instruction and departmental research against departmental budgets, (3) charging the full costs of computer services used in extramurally financed research against the relevant research budgets, and (4) sharing computer facilities with nearby institutions of higher education where this appears to be a more advantageous solution than contracting out."

#12 (136)

PHYSICAL PLANT EXPENDITURES

cf. 9.1 PHYSICAL PLANT MAINTENANCE AND OPERATION EXPENDITURE  
#12 (168), (173) - C. #1486 and #1487.

SPACE UTILIZATION

The Carnegie Commission "recognizes that major improvements are possible in the intensity of space utilization and assumes that some of the estimated 20-percent deficiency across the nation can be offset by improved utilization."

#1A (22)

OFF-CAMPUS FACILITIES

Cf. 4.4 OFF-CAMPUS PROGRAM OFFERINGS - #14 (50) for recommendation that "urban campuses, in appropriate instances, offer certain portions of their programs in off-campus facilities..  
C. #1165.



- 1497 -

9.4

## CAPITAL CONSTRUCTION

The Carnegie Commission predicts, as a result of new informational technology, that "New buildings should be built with adequate electronic components. They should also be planned for 24-hour use."

#11 (4)

LITTON 400 - 00000

NEW CONSTRUCTION COSTS

The Commission recommends that "funding levels for the academic facilities construction loan program be increased to provide sufficient loan funds for an additional 25 percent of needed new construction costs."

#1 (38)

# FEDERALLY FUNDED CONSTRUCTION GRANTS

The Commission "recommends that the amount of federal grants for academic construction be increased from the present provision (two-fifths) of construction costs for junior colleges and one-third for other institutions) to one-half of the total amounts required by all institutions for construction, renovation and replacement of facilities." \*

\*The Revised Recommendations of the Carnegie Commission stipulate that (1) "construction grants be made available to provide one-third of total costs for construction and needed renovation of academic facilities," and (2) "funding levels for the academic facilities construction program be increased to provide sufficient loan funds for an additional one-third of needed new construction costs."

#1A (21)

#1 (37-38)

USING COLLEGE STUDENTS AS COUNSELORS IN ELEMENTARY AND SECONDARY SCHOOLS

The Commission recommends that "Students in elementary and high school should be counseled through a variety of resources—counselors, written materials, community-based people, as well as college students (minority students and women, in particular)."

#19 (49)

Institutional research

"The Commission recommends that all relatively large institutions of higher education maintain an office of institutional research or its equivalent and that relatively small institutions seek to enter into arrangements with nearby similar institutions to conduct jointly sponsored programs of institutional research."

#12 (46)

# Management policies for institutional support services

"We (Commission) consider it unwise, however tempting in the short-run, to cut such items as:

- .Necessary maintenance
- .Library expenditures for new books and for journals
- .Student aid without at least making loans available"

#12 (19)

Improving management - more effective use of resources

To make more effective use of resources in relation to the students in attendance, the Commission suggests:

"Improving management by better selection and training of middle management, by giving more expert assistance to the college president, and by improving the budgetary process."

#12 (18)

IMPLICATIONS OF NEW TECHNOLOGY ON UNIVERSITY PRESS

The Carnegie Commission predicts that, as the result of the new technology, "Some equivalent of the university press, or an expanded university press, may eventually be necessary to produce videocassettes and other instructional software that can be used with the new technology."

#11 (5)